



Off-Road Vehicle Trail Assessment and Report



Introduction:

This project was initiated by the Maryland Department of Natural Resources Wildlife and Heritage Service (WHS). WHS utilized a unit-based Project Implementation Team (PIT) to design the data-collection template and conduct the assessment. The PIT members and their peers in other Department of Natural Resources (DNR) units collaborated for more than one year to collect data for this report. The information in this report was developed from the accumulated field data, an extensive literature search and information previously published in a report to the Maryland General Assembly by the Maryland ATV Safety Task Force¹.

The data included in this report demonstrate that the off-road vehicle (ORV) industry is one of fastest-growing mechanized outdoor industries in the world. The growth of the industry has spawned a concomitant increase in use of these vehicles across North America and many states are now attempting the fine exercise of balancing recreational interests with resource requirements. Maryland is just one state at the tipping point where growth of user interest challenges existing resource concerns and capacity.

There are extensive questions to be considered with regard to unauthorized ORV use on private and public lands but primary to MD DNR is the question of existing DNR ORV trails and the sustainability of that trail system. This report is intended to provide DNR the information necessary to make an informed decision on the important policy questions implicated by this issue.

Scope:

Inventory and assessment of all authorized off-road vehicle (ORV) trails on DNR land. The PIT also evaluated a sample of unauthorized ORV trails across Maryland. Extensive research on industry trends and morbidity and mortality is also incorporated to ensure a fully-informed review.

Methods:

The PIT initiated the ORV inventory and assessment process in November 2008, by contacting all regional DNR land managers. In December 2008, the ORV PIT members met with State Forest, State Parks, Fisheries, Information Technology (IT) and additional WHS staff members. Staff were introduced to the ORV ACCESS Database setup by the IT team for this project (Figure 1). Meeting attendees were provided training on the ORV database and guidance on the inventory and assessment protocols.

Staff were instructed to collect information sufficient to populate all appropriate data fields in the ACCESS database. The assessment form and database included an "Overall Impact" field where staff evaluated the impact of the ORV use on the trail. Impacts were rated as Low, Medium or High. When possible, staff also collected digital imagery of trails to verify environmental impacts.

From December 2008 to March 2009, staff collected and entered data into the database. In addition, the PIT conducted a peer review of the data and also reviewed the data for potential or known impacts to Rare, Threatened and Endangered species or sensitive habitats. The PIT further identified areas where trail use expanded the impacts or presence of invasive species. These sites were further inventoried and additional assessment details were identified. It is worth noting that the timing of the assessment limited the ability of staff to conduct more thorough vegetative analysis in some locations.

Summary:

¹ Gainer, Patricia S. J.D., M.P.A. Deputy Director, The Maryland Institute for Emergency Medical Services Systems (MIEMSS) Report on Off-Road Vehicle Incidents including All-Terrain Vehicles in the State of Maryland (2007) (hereinafter MIEMS).

A total of 221 trail records were recorded in the ORV database. DNR land unit locations included: 17 State Parks, 11 State Forests, 28 Wildlife Management Areas and Coop Areas, three Natural Environmental Areas, three Natural Resource Management Areas and two DNR-managed Recreation Areas. All of the authorized trails on State Forests were inventoried and evaluated. An additional 203 unauthorized trail locations were inventoried and incorporated into the database. As stated above, the number of unauthorized trails reported represents a sample of the likely actual number of unauthorized trails on or adjacent to DNR land.

Of the 221 trail records, staff reported the overall natural resources impact as follows:

High: 41 trail sites; **Medium:** 83 trail sites; **Low:** 97 trail sites (Figure 2). Twenty-one (~10%) locations were evaluated as having direct impact on plants or animals listed as Rare, Threatened or Endangered (RTE). An additional 43 (~20%) sites were listed as having indirect impacts on RTE species. Trail locations with combined direct and indirect impacts to RTE species represented 28% of the locations inventoried.

Twenty locations (9%) had impacts on class III trout waters. Twenty-five ORV sites (11%) impacted Non Tidal Wetlands of State or Special Concern. Seventeen locations (8%) occurred in designated Wildlands. Sixteen ORV trails (21%) impacted significant natural communities. Finally, on 68 sites (31%) ORV use was contributing to the existence or expansion of invasive plants in the area.

Figure 1 – Sample ORV Database Record

The screenshot shows a web-based form for an ORV Database Record. The record is for '4 Mile Ridge 1', dated 1/16/2009, observed by Campbell, S. The location is described as an old access road in Savage Ravines Wildland. The trail is classified as 'illegal' and '4-wheel'. It is marked as impacting RTE species (1 directly, 4 indirectly), significant nongame wildlife, and significant natural community/habitat. The overall impact is 'High'. Recommendations for this illegal trail are 'Barriers, enforcement'. The form also includes checkboxes for State Wildland, NTWSSC, Class III Trout Waters, and Invasive plant sp encroachment. A 'Misc RTE comments' box notes the review by J. M. McCann, E. Thompson.

Access point	Latitude	Longitude
Access point1	39.61281	-79.02411
Access point2	39.60930	-79.03668
Access point3	39.59960	-79.04615
Access point4	0.00000	0.00000
Access point5	0.00000	0.00000
Access point6	0.00000	0.00000

RTE sp directly impacted: # RTE sp directly impacted: 1 List RTE sp directly impacted: Potential impacts to at least 1 State End plant

RTE sp indirectly impacted: # RTE sp indirectly impacted: 4 List RTE sp indirectly impacted: Timber Rattlesnake, 3 RTE dragonflies and dan

Significant nongame wildlife impacts: Nongame comments: Little Savage supports a high quality brook tr

Significant natural community/habitat impacts: Natcomm/habitat comments: The trail goes through the Little Savage Rive

State Wildland:

NTWSSC:

Class III Trout Waters:

Invasive plant sp encroachment:

Overall impacts: High Overall impacts comments: A top priority for eliminating illegal ORV use and a serious mgt issue for the Savage Ravines Wildland. ORV's are using an old access road that is now closed. To get around an old,

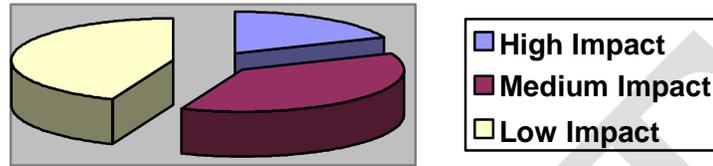
Recommendations, if authorized ORV trail: [Dropdown menu]

Recommendations, if illegal trail: Barriers, enforcement

Misc Comments: Close trail. A top priority for eliminating illegal ORV use.

Record: 14 of 221

Figure 2 - Trail Impact Scaled Assessment



Background and History:

All terrain vehicles (ATVs) are off-road vehicles designed to travel on four low-pressure tires with a seat for the operator to straddle and handlebars for steering. Certain ATVs are designed for use by one operator with no passenger, while a few have been designed for an operator and one passenger where the passenger straddles the seat behind the operator.

Figure 3 - Typical ATV



Off-road utility vehicles (UTVs) or side-by-sides, are a relatively new addition to the ORV market. UTVs have traditional passenger vehicle style seating with a steering wheel and pedals for accelerating and braking. The first generation of UTVs were designed for true utility function on the farm or job-site --- hauling wood, debris, feed, game or tools with the capabilities of an ATV and the comfort of a miniature 4WD pickup truck or sport-utility vehicle. Because of their traditional driving position, full roll cage, comfortable ride, and seating for up to six, the new generation trail-friendly UTVs are finding their way onto ORV trails across North America.

Figure 4- Typical UTV



According to the Specialty Vehicle Association of America, the industry trade group, ATVs and UTVs come in varying frame and engine sizes. Adult-size units (with engines from 90 to 800 cubic centimeters) can reach speeds over 60 mph and weigh up to 1500 pounds. Average retail for a 2007 model ATV was \$5700. The newest high-tech UTV units with seating for four list an MSRP of nearly \$15,000 for 2010.²

For purposes of this report, we define ATV to include all ORVs – dirt-bikes, three-or-more-wheeled off-road vehicles and snowmobiles. Further, while the original DNR ORV trail system was initiated to accommodate the off-road riding experiences of the mid-70's era street-legal Jeep® or 4-WD pickup, today's ORV rider is normally driving a 2 or 4-stroke four-wheeled ATV that weighs 500-800 lbs and cannot be legally driven on public roads. Recognition of this shift from street-legal sport-utility vehicles or pickup trucks to the new generation of true off-road vehicles is critical to an informed discussion on this issue.

Following are data to support that this is an issue that deserves immediate attention:

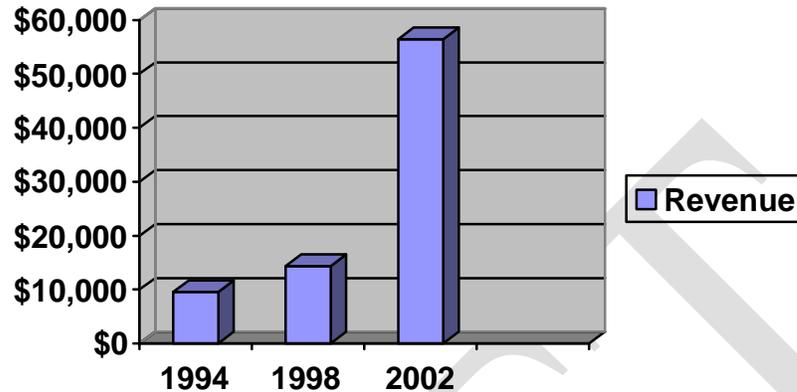
- First, data from individual state facilities:
 - In the early 90's DNR sold approximately 500 permits for the 18 mile trail at Greenridge State Forest; last year we sold 2182 – a four-fold increase.³
 - On the lower shore, ORV permit sales for the Pocomoke River State Park peaked at more than 900 riders in 2006-07, a 100% increase from 2000-01.
- Second, a sample of statewide data for DNR:
 - 1994 sales of ORV permits = \$9600; 2005 = \$73,585., 2009 = \$74,033⁴ See Figure 5 below.

² See MIEMS citing <http://www.atvsafety.org> and Specialty Vehicle Institute of America. Special Report November 2006. Irvine, CA.

³ MD. DNR-Forest Service

⁴ MD. DNR-Fiscal and Administrative Services

Figure 5 - Statewide ORV Permit Revenue



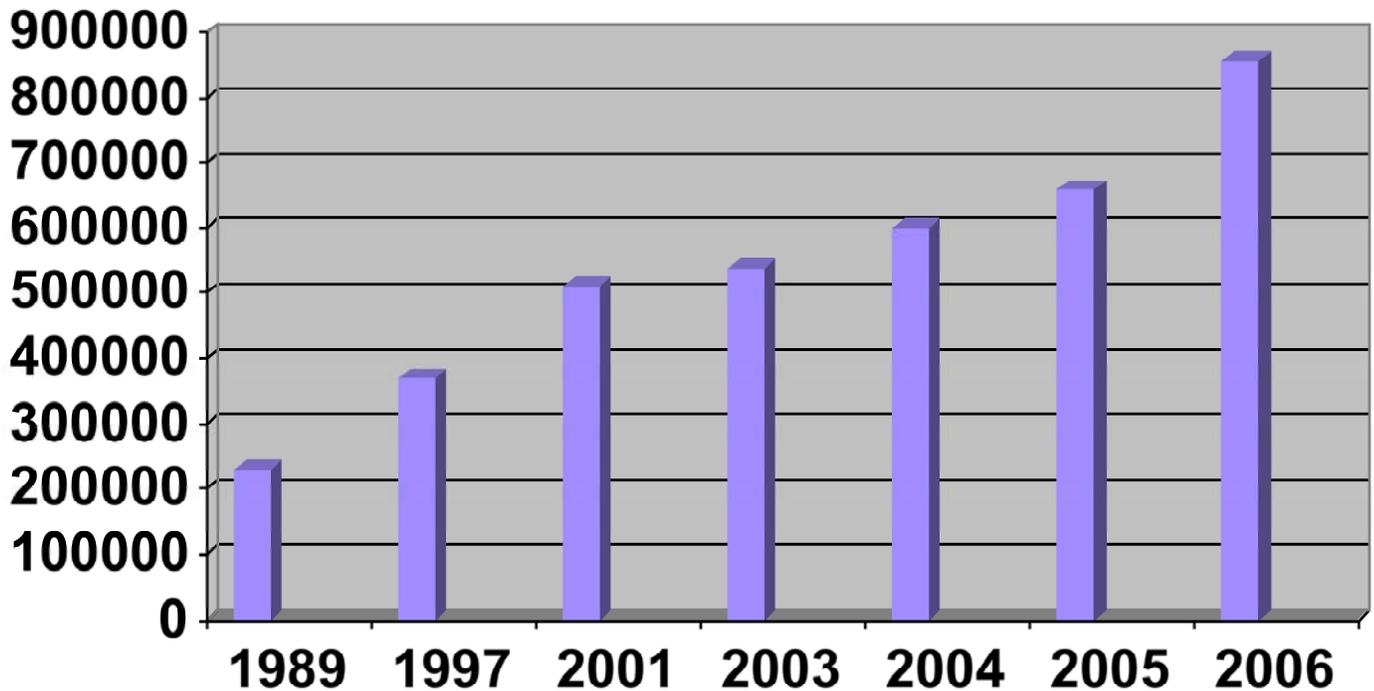
- Third, adjacent state data: 1 in 30 Pennsylvania residents owns an ORV and Ridersville Cycle in nearby Berkley Springs, West Virginia is the largest volume Polaris ATV dealer in the entire U.S.⁵; and
- Finally, nationwide data:
 1. From 1997-2001,
 - 4-wheeled ATV riders rose 36 percent from 12.0 to 16.3 million and soared to nearly 43 million in 2007;
 - Riding hours rose 50 percent from 1,575 to 2,364 million; and
 - Number of ATVs sold rose 40 percent from 4.0 to 5.6 million.⁶
 2. From 1975-2005,
 - ORV visits to U.S. National Forests grew from 5 million in 1975 to 51 million in 2005 (92% increase).⁷
 3. In 2006, ATV sales reached 856,000 units in the U.S. – a 200% increase in the ten years prior and a 350% increase in less than twenty years (see Figure 6 below).

⁵ PA ATVing and Polaris Industries

⁶ North American Motorcycle Industry Council

⁷ <http://www.trailsrus.com/swvirginia/finalreport/volume1/execsum.pdf>

ATV Sales in U.S.



Regulation of ATV's:

Forty-two states (including Maryland) have some ATV registration, equipment and / or operator requirements. Five states currently have no ATV registration, equipment or operator requirements; two states only require ATV registration, and one state requires only that ATVs be equipped with a muffler. Most states have specific requirements for ATVs to be equipped with certain features (e.g., lights, muffler). Thirty-three states identify some age limitations on ATV operation, at least on public lands. Twenty-one states require safety education / rider education courses for certain types of ATV operators. Thirty-two states have some sort of helmet requirement for ATV operators, passengers or both. Eight states require eye protection such as goggles or protective glasses for ATV use.⁸

North Carolina was the first state to revise their laws in accordance with the Industry's Model State ATV Legislation. In 2004 there were no laws or regulations governing ATV use in North Carolina. With the enactment of the model legislation in 2005 they became the first state to adopt the industry-recommended model law. The major provisions of the law are as follows:

- Prohibits parent or guardian from knowingly permitting a person:
 - Under age 8 to operate an ATV;
 - Under age 12 to operate an ATV of 70 cc or greater;
 - Under age 16 to operate an ATV over 90 cc;
 - Under age 16 to operate an ATV unless under continuous visual supervision of a person at least age 18.

⁸ MIEMSS at 22.

- The prohibitions on persons under age 12 operating an ATV of 70 cc or greater and under age 16 operating an ATV over 90 cc do not apply to any parent or guardian of a person born on or before August 15, 1997, who permits that person to operate an ATV and who establishes proof that the parent or guardian owned the ATV prior to August 15, 2005.
- Prohibits carrying of passengers unless the ATV was designed by the manufacturer to carry passengers.
- Prohibits a person from knowingly selling or offering to sell an ATV:
 - For use by a person under age 8.
 - 70 cc or more for use by a person under age 12.
 - Greater than 90 cc for use by a person under age 16.
- Requires every ATV operator to wear eye protection and a helmet meeting U.S. DOT standards.
- Prohibits ATV operation:
 - While under the influence of alcohol, any controlled substance, or a drug that impairs vision or motor coordination.
 - On any public street, road, or highway except to cross or at any time on an interstate or limited access highway.
 - During the hours of darkness, without displaying a lighted headlamp and taillamp.
- Effective October 1, 2006, requires every ATV operator born on or after January 1, 1990 to possess a safety certificate indicating successful completion of an ATV safety course sponsored or approved by the All-Terrain Vehicle Safety Institute.
- Requires all ATVs sold or operated in the state to be equipped with a brake system, an effective muffler system and a U.S. Forest Service qualified spark arrester, all maintained in good working condition.
- Sets penalties for violation.
- Persons using ATVs for farming, hunting or trapping are exempt from the law's provisions.⁹

MD DNR regulates the operation of ATVs on DNR-controlled state land. ATV operation on non-DNR land is generally not addressed in State statute or regulation. ATV use on state forest land requires registration with the Department and purchase of a \$15 permit. ATV operators and passengers on DNR land are also required to wear helmets and operators are required to wear eye protection. ATV operators on state land must have a drivers license; learners permit and accompanied by a licensed driver; or older than 12 years of age with a parent / guardian who has a valid driver's license.

As stated, ORV visits to U.S. national forests grew from 5 million in 1975 to 51 million in 2005, an increase of 92% during that time period. The number of off-highway vehicles grew from 400,000 in the early 1990s to more than 8 million by 2003. In 2007, the number of OHV participants grew to 42,991,200.¹⁰ By all measures, the popularity of the activity has outpaced the development of appropriate trails for OHV use.

West Virginia capitalized on this opportunity by developing a trail system, called the Hatfield-McCoy Trail Initiative that includes a total of 500 miles of trails in six different locations in former mine country. According to the authority charged with managing the Hatfield-McCoy system, cost to the State is \$750,000 annually. Permit sales along more than cover the operating expense while income to the local community is expected to reach \$20M and generate nearly \$1M in tax revenues alone. State and local taxes generated from the trails more than covers the funding provided by state government for the initiative.

Following on the news from West Virginia, the Commonwealth of Virginia recently announced plans to open several hundred miles of off-road, equestrian, mountain-biking and hiking trails across the lower Southwest corner of Virginia. Known as the Spearhead Trails Initiative, a moniker coined from the arrowhead shape of the region the trails will occupy, the initiative is expected to provide extensive outdoor recreation opportunities and spur rural economies in the region.

From press reports in November 2009:

If implemented, the new Spearhead Trail System and its all-terrain vehicle users could “have a great economic impact in Virginia,” said Mark Caruso, the SRRA’s vice chairman, speaking to about 75

⁹ See <http://www.atvsafety.org>

¹⁰ Id.

politicians and municipal leaders who gathered at the Spearhead Trails Comprehensive Plan Conference.

Caruso pointed to the success of the Hatfield-McCoy ATV Trail System of neighboring West Virginia, where ATV trails now extend for hundreds of miles across properties belonging to more than 250 landowners. All the ATV trails are built on private property, largely belonging to coal, timber and gas companies, said Jeffrey T. Lusk, executive director of the trail system.

“People in West Virginia have lots of places to ride,” Lusk said. Each year, too, West Virginia collects fees from trail users, Lusk said. In 2008, permits from 30,000 riders garnered more than \$1 million, he added. Citing that success, Caruso said, “We can have what they have. We’ve got to step forward and make this thing happen.”

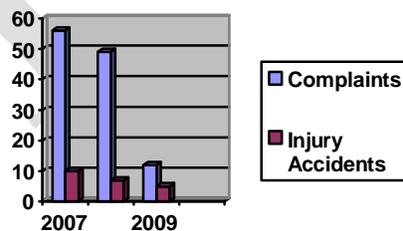
A comprehensive study by Debby Spencer, representing the WMTH Corp. of Bowling Green, Ky., says the Spearhead Trail System could potentially bring 200,000 visitors to the region, create 500 jobs and add \$30 million to local economies in the course of 10 years. “Southwest Virginia has the potential to develop hundreds of miles of mountain biking, horseback riding and off-road vehicle trails,” Spencer said.¹¹

As one of the fastest-growing segments of the outdoor recreation industry there's no way to ignore the fact that people are buying and riding ORVs and the interest continues to grow. We need to be proactive in identifying the impacts and recommending an informed response to the current and future interest in this activity.

Safety and Enforcement:

In 2007 the MD DNR Natural Resources Police (NRP) added a code to identify and catalogue ATV complaints on state-owned land. In 2007 they logged 56 complaints, 49 in 2008 and 12 complaints in 2009. Concomitantly, NRP reports ten personal injury accidents on ORVs in 2007, seven in 2008 and five in 2009. (Figure 7). The data support a positive response to the increased presence of NRP on state land. NRP recently added a code to account for the number of ATV patrols that occur annually. In 2009, the first year of this new code, they reported 41 ATV-specific patrols across Maryland.

Figure 7 - ATV Complaints & Injuries on DNR Land¹²



During the 2007 Session of the Maryland General Assembly, House Bill 261 “Motor Vehicles – All Terrain Vehicles – Helmet Requirement” proposed to amend the Transportation Article to add a section defining ATVs and to require (ATV) operators and passengers under age 16 to wear a helmet that met the Motor Vehicle Administration’s requirements for motorcycle helmets. HB 261 received an unfavorable report in committee, and the cross-filed Senate version of the bill (SB 482) was withdrawn.

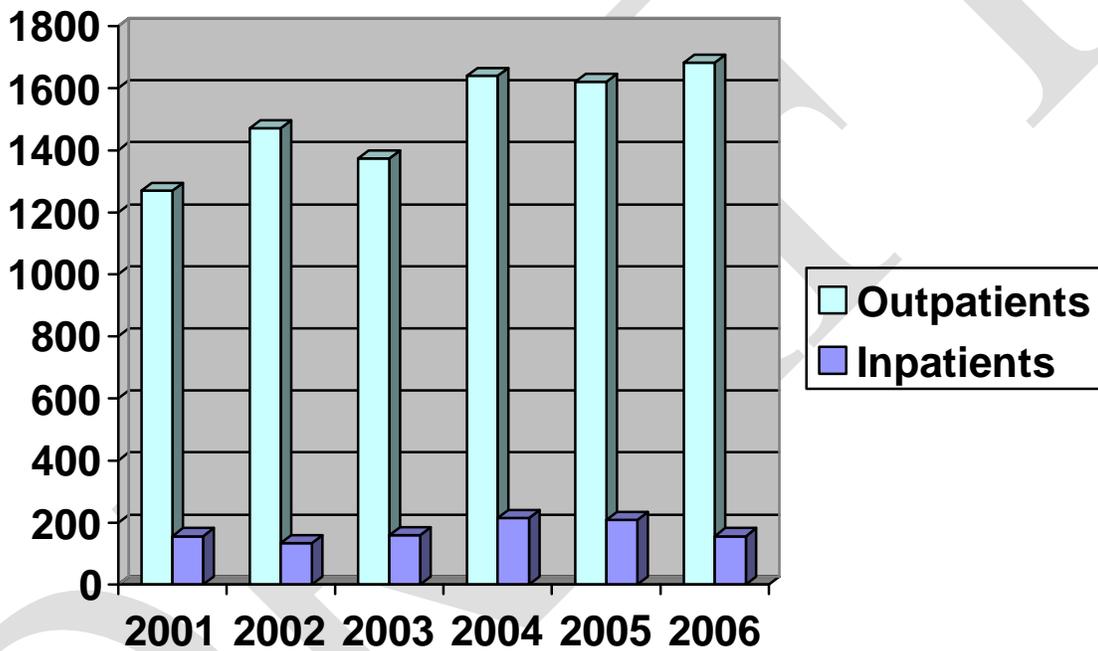
Subsequently, the 2007 Joint Chairmen’s Report requested that MIEMSS “...report...on the

¹¹ <http://www.trailsrus.com/swvirginia/press.html>

¹² Snowmobiles accounted for one injury accident in 2007, one in 2008 and two in 2009.

number of off-road vehicle accidents in Maryland, including a break-out for accidents specifically related to all-terrain vehicles, that resulted in emergency room, hospital and trauma center visits, the extent to which those visits involve children, the State costs associated with such injuries, and recommendations to reduce the incidence of such injuries including a review of policies in other states.” The referenced 2007 MIEMS report in this document was produced in response to the Joint Chairman’s report request. In that 2007 report, on behalf of the MD ATV Safety Task Force, MIEMS reviewed the Maryland Trauma Registry and found the following: 12 deaths from ATVs or other off-road vehicles from 2001-2006.¹³ The task force also evaluated hospital outpatient and admissions data from 2001-2006. During the six year period examined there were 9,000 individuals treated and released as outpatients for ORV injuries. In the same period of time there were 1,027 individuals admitted to hospitals for inpatient treatment from ORV injuries (Figure 8).¹⁴ The number of outpatients treated for ORV injuries during the last three years examined remained relatively stable while inpatient admissions declined slightly.

Figure 8 – MD Hospital Visits from ORV Accidents



¹³ MIEMS at 11. (Note does not include snowmobiles as ATVs)

¹⁴ MIEMS at 12, 13.

REGIONAL ASSESSMENTS

The following section details the four regional assessments conducted by the PIT members and their peers across DNR lands and other private and public lands. Each assessment team utilized similar methodology and populated a centralized database.

The teams also documented their findings with digital photographs. The photographs generally depict impacts ranging from simple tracks on hard-packed roads (minimal impact/low damage) to high-impact conditions where ORV's are destroying individual plants and animals, important habitats and other natural features. The most commonly identified and documented impacts seen in the images are evidenced by the simple compaction of those natural communities by repeated traffic through an area. It is rare to find a one-time use location for ORV's as most sites become well known to the rider(s) and are visited repeatedly – this is often the case whether the site is authorized or unauthorized.

In some instances the images do not capture the resource-based concerns described in the regional assessment. This is the case where downstream aquatic ecological concerns are documented but not captured in the photographs by the assessment teams. Nonetheless, those concerns are important to this discussion.

Central Region

Method:

In December of 2008 the CR PIT Team member worked with Gwynnbrook staff members to coordinate meeting locations and schedule site visits on DNR owned or managed properties. Staff members were briefed on assessing impact sites, documenting coordinate points, and photo documenting encroachment and impact sites.

From February 2008 to March 2009 data were collected and recorded in the ORV Database and photos that correspond with the data were downloaded for addition to this report. Each set of coordinates has at least one photograph corresponding to a database record. Some sites have multiple photos to more accurately portray on-site conditions.

Summary:

There are no authorized or legal ORV trails on DNR land in the Central Region. As a result, all of the records represent illegal activity. Of the 64 sites documented seven had a very high amount of damage, 34 had moderate or medium impacts and 23 had little or low impacts.

Some sites required additional photo documentation to ensure a better understanding of the severity of disturbance. Had these sites been visited during the warmer months when illegal activity is higher the volume of unauthorized sites likely would have been higher as well. In conjunction with documenting ORV impacts, the CR PIT also encountered an extensive network of authorized and unauthorized equestrian and mountain bike use that contributed as much or more to the negative environmental impacts as ORVs.

Recommendations:

All of the sites are on DNR property that offers non-consumptive day-use activities, hunting opportunities during the hunting season, or both. It would be difficult to justify blocking access with barriers if these properties are utilized by the general public throughout the year. Our recommendation is increased enforcement efforts especially on areas that are not readily accessible.

Although our focus for this project was ATV damage a second look needs to be taken to address legal non-consumptive uses on public lands such as mountain biking and horseback riding. The City of Baltimore,

manager of the Loch Raven Reservoir property, recently closed the unauthorized single-track mountain bike trails to evaluate the impacts on the watershed. That controversy has given rise to a renewed focus in the region on trail use in general.¹⁵

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¹⁵ *Drawing the Line on trails at Loch Raven Reservoir* <http://www.baltimoresun.com/sports/outdoors/bal-sp.thomson13dec13.0.1181092.story> December 13, 2009.

Bethel Managed Hunting Area – Cecil County



Bethel Managed Hunting Area – Cecil County





Courthouse Point Managed Hunting Area- Cecil County



Courthouse Point Managed Hunting Area – Cecil County







Elk Forest- Cecil County





DKR

Gunpowder Falls State Park – Baltimore County



DKB

Gunpowder Falls State Park – Baltimore County



Gunpowder Falls State Park – Baltimore County



Patapsco Valley State Park – Halethorpe – Baltimore County







Hanover Watershed – Carroll County





DK



DKR

Rocks State Park - Lochery Road – Harford County



Maring Cooperative Wildlife Management Area (CWMA) – Carroll County







Marriottsville Road – Baltimore County





DKR



Palmer SP Forge Hill – Harford County



DRAFT



DK

Soldiers Delight Natural Environment Area (NEA) – Baltimore County



Soldiers Delight NEA – Baltimore County



Stoney Demonstration Forest – Harford County













Woodbrook CWMA – Carroll County



Woodstock – Howard County



Woodstock – Howard County



Eastern Region

Methods:

The Eastern Region (ER) ORV PIT Coordinator began the ORV inventory and assessment process in November 2008, by contacting all ER DNR land managers to identify land units that have authorized ORV trails and/or illegal ORV trails. Maps were generated of the identified land units showing ORV Trails which needed to be surveyed.

The Chesapeake Forest posed a different approach due to its size 58,000 acres containing 240 tracts and spread over 6 counties, and the fact that half the acreage was in a leased hunting program (authorized ORV) and half of the acreage was open to public hunting (illegal ORV). In order to narrow our focus on what to survey we decided to survey the larger public hunting tracts, those tracts identified by the land manager as problem areas, and to send out a post card mailing to the hunt clubs (168) on the leased tracts to determine which clubs used ORVs and which leased tracts had illegal ORV use as well as the level of impacts by both authorized and illegal ORV use. From the results of this mailing based upon illegal ORV use and cross-referenced with the Heritage Database of Rare, threatened or endangered species (RTEs) we added which leased tracts we needed to survey to the identified public hunting tracts to form a survey list for the Chesapeake Forest.

From December 2008 to March 2009 ORV PIT members collected and entered data into the ORV Database. The data that was entered was cross-referenced with the Heritage Database of RTEs to identify impacts to those species and communities.

Summary:

A total of 67 trail records were entered in the database from the Eastern Region. The record breakdown by DNR land units are as follows: 3 State Parks, 8 – State Forests, 29 – Chesapeake Forests, 25 – Wildlife Management Areas, and 2 – Natural Heritage Areas. There were a total of eight authorized ORV areas surveyed, including one authorized ORV trail on Pocomoke State Forest; seven designated Disabled Hunter Areas; and 4 Chesapeake Forest Leased Hunting Areas. Sixty-two illegal trails were surveyed in the ER, a sample of the total illegal trails on DNR lands.

On the Chesapeake Forest leased hunting tracts 134 (79%) clubs out of 168 responded to the post card mailing. Eighty-six (64%) of the clubs used ORVs and 48 (36%) of the clubs did not use ORVs. Thirty-three (24%) of the clubs said they had illegal use of ORVs on the leased hunting tracts. Fifteen (11%) of the clubs said that the ORV impacts were medium to heavy and 119 (89%) of the clubs indicated that the ORV impacts were none to light.

Of the 67 trail records, staff reported the overall impact on natural resources as high on six trails (8%), medium on 15 trails (22%), and low on 46 trails (70%). Fifteen ORV trails (22%) had direct or indirect (known or potential) RTE impacts. Twelve ORV trails (18%) impacted Non Tidal Wetlands of State or Special Concern. One ORV trail occurred in a state designated Wildland. Three ORV trails impacted non game wildlife. Two ORV trails had invasive plant issues.

CFL Branch/Messenger Complex – Caroline County



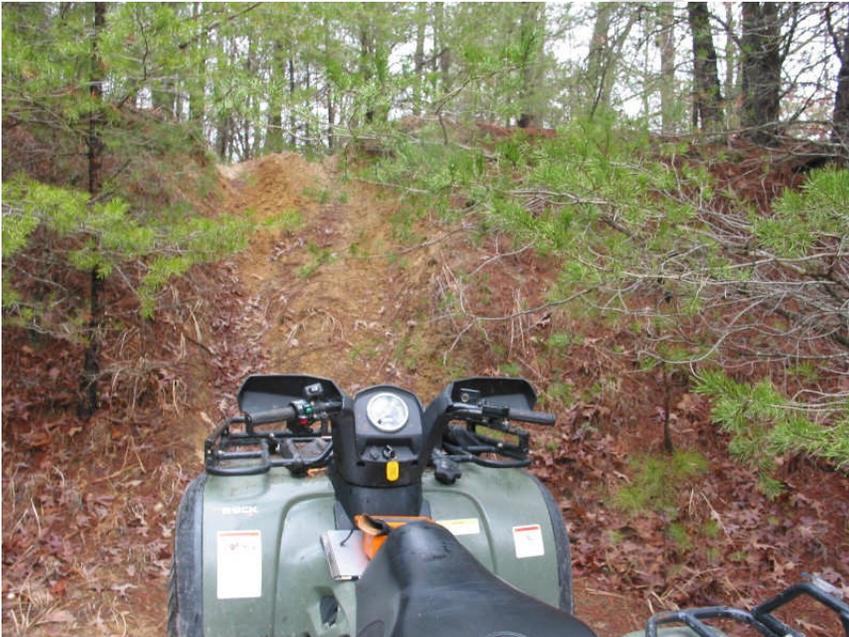
CFL Marshy Hope Complex – Dorchester County



CFL Marshy Hope Complex – North Tara Road – Dorchester County



CFL – Marshy Hope Complex – Puckam Sand - Dorchester County



Fishing Bay Wildlife Management Area – Davenport – Dorchester County



Idylwild Wildlife Management Area (WMA) Horse Access Gate – Caroline County



Idylwild WMA Horse Stream Crossing – Caroline County



Idylwild WMA Sand Dune – Caroline County





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Millington WMA – Adkins Field – Kent County



Millington WMA – Adkins Powerline Row 1- Kent County



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Millington WMA – Goltswoods – Kent County



Millington WMA – Hoopshole – Kent County



Millington WMA – Jonesline – Kent County



Millington WMA – Quillen Gate – Kent County



Millington WMA- Quillen Parking – Kent County



Millington WMA – Sproats Row – Kent County



Millington WMA – Sproats Row RR Trax – Kent County



Millington WMA – Waeker Rd 1- Kent County



Millington WMA – Waeker Rd – Kent County



Reed Creek Tributary Wetland in Queen Anne's – Private



Sassafras Natural Resources Management Area (NRMA) Field – Kent County



Southern Region

Method:

In December of 2008, southern region (SR) DNR land managers were contacted to determine the locations of illegal ORV use on SR DNR lands. Sites were then visited through March of 2009. On-site data were recorded with a handheld GPS and digital camera then recorded to the ORV database.

Summary:

All sites documented were of illegal ORV use as there are no authorized ORV trails in SR. Surprisingly, many properties in SR where ORV use was expected showed no signs of illegal entry. It is possible that the time of year helped to disguise the use of these trails, since they were reported to be known problem areas.

There were 44 entry points documented on 15 individual parcels. These were merely a representative sample of the region. Many of the properties where no ORV activity could be found are surrounded by water, border military land or have no neighbors living close by.

There was no evidence that the ORV use on these properties is from people who are hauling their ORV to the site. The properties with illegal ORV use all have residences in close proximity. In many cases, the trails lead from the adjacent landowner's property onto the DNR property.

Recommendations:

With few exceptions, barriers appear to be ineffective at preventing illegal ORV access in SR. In some cases the barriers already in place have caused the access to shift to areas that are more susceptible to erosion and other damage such as steep banks and streams.

Now that these areas have been formally documented and located an increased enforcement presence is recommended. Past experience suggests that enforcement efforts could curtail much of the use. In most cases, the land managers as well as NRP know where the ORV's are coming from, sometimes down to the exact house. Enforcement during known times of use could intercept the majority of the traffic. Coupled with increased penalties, this effort should foreclose the majority of the illegal activity.

Finally, as in other regions, several areas evidenced illegal equestrian and/or mountain biking activity. In some locations the horse or bike activity was authorized but impacts were high and not sustainable at current levels (See Figure 9 and 10 below).

Myrtle Grove – 225 Bridge – Charles County



Myrtle Grove Creek Climb – Charles County



Myrtle Grove WMA and Mattawoman Crossing NEA – Charles County



Myrtle Grove Sewer Line – Charles County



Figure 9: Rosaryville State Park – Horses – Prince George’s County



Figure 10: Rosaryville State Park Mountain Bikes – Prince George’s County



St. Mary's River State Park – Indian Bridge Rd – St. Mary's County



St. Mary's River State Park – Power-line – St. Mary's County



Tayloes Neck Woods – Charles County



Tayloes Neck Woods Internal Trail – Charles County



Western Region

Methods:

As in the other regions, the Western Region ORV PIT initiated the ORV inventory and assessment process in November 2008. The PIT coordinator contacted and met with all Western Region DNR land managers to identify specific land units with authorized ORV Trails and/or unauthorized ORV Trails. DNR land managers were then asked to identify a staff member to be trained in populating the ORV Database.

From December 2008 to March 2009 staff collected and entered data into the Access Database. The Western Region ORV PIT conducted a peer review of the data and identified sites for potential or known impacts to RTE species, sensitive habitats, or areas where trails have contributed to the expansion of invasive species. These sites were further inventoried and additional assessment details were identified. Unfortunately, the timing of the assessment limited the ability of staff to visit certain trails and conduct more thorough vegetative analysis.

Summary:

A total of 78 trail records were recorded in the ORV database for Western Region (WR). The breakdown by DNR land units for the WR was as follows: 8- State Parks, 3- State Forests, 5- Wildlife Management Areas and 1 Coop Area. All eight authorized trails on State Forest Land in the region were inventoried. Seventy unauthorized trails were inventoried and assessment data was incorporated into the database. As stated above, the number of unauthorized trails reported here only represents a sample of the likely actual number of trails on or adjacent-to DNR land.

Of the 78 trail records, staff reported the overall impact on natural resources as high on 23 trails, medium on 35 trails and low on 20 trails. Of the eight authorized trails, staff reported an overall impact of high on two trails, and medium on one trail with a note that additional inventory efforts are suggested. The remaining five authorized trail impacts were rated as low. Thirty-four ORV trails (44%) had direct or indirect RTE impacts. Twenty ORV trails (26%) had impacts on class III trout waters. Six ORV trails (8%) impacted Non Tidal Wetlands of State or Special Concerns. Six ORV trails (8%) occurred in designated Wildlands. Sixteen ORV trails (21%) impacted significant natural communities. Thirty ORV trails (38%) impacted non game wildlife. Sixty-six ORV trails (85%) had invasive plant issues.

Finally, in December 2009, WHS staff responded to complaints of unauthorized trail construction on the Frederick City Watershed Cooperative Wildlife Management Area. On inspection the team discovered an extensive network of man-made technical trail features for mountain bikers. With assistance from a MD Conservation Corps crew, the extensive illegal infrastructure was removed. Several dump-truck loads of material were carried from the site by the crews. See photos below.

WR ORV PIT Recommendations:

1. Close the following authorized ORV trails: Poplar Lick (SRSF), Green Ridge (GRSF). These trails are not sustainable at the current level of use due to their location. Further evaluation of the Burkholder Trail (PGSF) is suggested for potential closure or relocation. It is worth noting that closing some of these trails will require closure to other users, including drive-up camping and other vehicle access.
2. Further evaluate the Negro Mountain Authorized Snowmobile Trail. Closure or relocation may be suggested if impacts are too great.

3. Closely monitor impacts along other authorized trails. As needed, close trails where impacts become too great and trail is unsustainable.
4. Illegal ORV trails in the following areas should be top priorities for enforcement and improved barriers: Savage Ravines Wildland (SRSF), Puzzley Run (SRSF), upper Sideling Hill Creek (Sideling Hill WMA), Dans Mtn - Toms Hollow & Mill Run areas (Dans Mtn WMA), Mt. Aetna Tract (SRSF), Negro Mtn Bog (SRSF), upper Bear Creek (SRSF), South Branch Casselman River (SRSF).
5. Include information about illegal ORV use (e.g., penalties, ecological impacts, economic costs, etc.) in the DNR hunting and fishing guides.
6. In addition to better enforcement and "education", identify site-specific measures (e.g., better designed gates, more effective barriers, more conspicuous and strongly worded signage at gates) for each problem area AND potential problem areas. Most of the information submitted for this evaluation was not detailed or site-specific enough to do this.
7. In the future, require well-designed gates and barriers to be placed at logging road entry points to help reduce illegal ORV use. In most cases, logging roads are the main access points for illegal ORV use.
8. Determine restoration needs and costs for highly impacted areas, including authorized trails that should be closed.
9. Evaluate current ORV Permit fee structure and consider increasing the fees to cover costs for maintenance and the publication of a comprehensive trail guide/map book for all trails.
10. Evaluate fine and bond schedule for ORV violations. Consider increased penalties for violations and escalating penalties for repeat offenders.
11. Conduct surveys of other State Forest User Groups, such as hunters, fishermen, hikers and campers to determine the level of user conflict with ORV trails. This assessment focused primarily on ecological impacts.

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Green Ridge State Forest - Four Mile Ridge – Allegany County



Green Ridge State Forest – Allegany County



Green Ridge State Forest – Allegany County



Mount Zion Church - Laurel Run - Garrett County



St. John's Rock – Garrett County



St. John's Rock – Garrett County



Recommendations and Conclusion:

Summary Statement:

There are legitimate questions regarding DNR's involvement in this issue. A fair argument could be made that ORV trails should not be DNR's responsibility. However, DNR must be careful not to distinguish ORV trails from the list of other activities the Department also manages, including the miles of previously discussed trails that support hikers, mountain bikers and equestrians; the swimming pools on DNR land; the golf course on DNR land; and more.

Likewise, abandoning this user group and hoping someone else will 'pick them up' will only force the ever-increasing number of users to locate on already over-crowded DNR facilities or ride illegally on private and public land. It appears to be in our best interest to work toward keeping this user group riding legally and safely on lands; and on lands with the lowest ecological value.

Finally, we must be cautious in isolating ORV's as the sole culprit for the impacts plaguing what appears to be a small proportion of the Department's lands and trails. This assessment demonstrates that equestrians, mountain bikers and street-legal passenger vehicles all play a role. An assessment of the entire DNR trail system and our user-base is not recommended below as it beyond the scope of this effort. However, given the findings uncovered during this assessment a review of our statewide network of trails and the users on those trails may be a reasonable large-scale project for the Department.

Long-Term Recommendations:

To a non-participant looking at a map of Maryland, it might appear that the opportunities are adequate to support the current number of ORV users. However, like hiking or horseback riding trails, each facility is different and supports users of different skill levels and/or interests. So, it is inappropriate to simply calculate an estimate of acreage available and divide that by a recommended user-density requirement and conclude that we are at capacity or we can expand opportunities on existing lands.

The information in this report demonstrates continued expansion and growth of the ORV community. Likewise, as development encroaches on legal private-land riding areas, otherwise legal riders will likely find their way to places where DNR does not want them---including our highest-valued public lands. A first step toward reconciling and mitigating the concerns in this report is the development of a stakeholder connection with the ORV community. The initial step toward making that connection is creating a database of registered ORV riders on DNR public lands and communicating with those registered riders. Regular updates as to trail conditions, closures, planned changes and, most importantly, strong directives regarding the consequences of illegal activity should be part of this outreach effort. As a practical matter, DNR must move to an all-electronic registration system that requires an email address in order to facilitate development of the database and prompt, regular communication with this new stakeholder community.

Likewise, we should identify, through the ORV registration nexus and formal ORV user groups, leaders in the community willing to serve on a first-ever DNR ORV Stakeholder Workgroup. This group will meet periodically (no more than four times annually) to communicate concerns and provide a basis for informed and consensus-based decision making.

This effort should not require major investments in new staff. Rather, the Department should designate a small team of existing staff with one new FTE coordinator. At a minimum the group should include a staffer charged with coordinating the effort and communicating with the stakeholders; and a land acquisition staffer, wildlife ecologist, cold-water fisheries staff, planner and an engineer. This group would represent the Department in the dialogue with the stakeholder workgroup. They would also function to identify land with low ecological values

in locations with the highest probability for community-acceptance and in areas where we already have interest in ORV riding.

Likewise, upon identifying potential parcels, the team would work with the stakeholders to fill in the details. This too should not require new staff or skills since it's the same process we would use with the mountain bike riders, the equestrian clubs or the kayak groups when seeking their involvement, partnerships and volunteerism.

In addition, DNR would take the stakeholder relationship forward to help identify volunteers, vendor-partnerships or local-government partnerships to facilitate identification of a non-DNR management team for the new facilities. This model exists in many states – including the aforementioned Hatfield-McCoy Trail in W. Va., the Cycle Conservation Club partnerships in Michigan and Vermont and the Iowa OHV partnership.¹⁶

What remains is the issue of funding. Interestingly, funding for the relocation or replacement of existing ORV trails is currently available from several sources. First, the POS statute clearly allows for the acquisition of land for recreational uses such as ORV riding. Many “POS-advocates” will likely argue that DNR should use POS money for ecological valuable land. However, absent legitimate places to ride many of the current and future riders are going to find their way onto other places so it's a wise economic and ecological model to facilitate alternative sustainable sites for ORVs.

Likewise, the National Recreational Trails Grant Program requires a minimum of 30% of the state-side appropriation to be used for Motorized Off-Road Vehicle Trails. Maryland receives an average of \$800,000 each year from the NRT Grant program so our annual motorized trail opportunity is nearly \$250,000.¹⁷ Also, manufacturers are now in the grant-funding business; as an example, the folks at Polaris Industries and Yamaha Motor Corporation annually award more than two million dollars for the development and maintenance of ORV trails.

Finally, provide them a good-faith effort with a new site or two and the ORV community would likely support an increase in registration fees for riding on DNR land. Current costs at nearby private facilities average \$35 **per day**; and these places are at capacity on the weekends. DNR currently charges \$15 annually to ride on public lands. A report from staff suggests raising this fee to \$50 or more would be more inline with the actual cost to maintain the trail network.

Finally, from the MIEMSS report, the following recommendations are advanced in an effort to reduce the incidence of ATV-related injuries on public and private land in Maryland:

1. Implementing registration requirements for all ATVs (private and public riders) that would permit accurate tracking of the number of ATVs owned in Maryland and provide a focal point for dissemination of safety materials to ATV owners;
2. Requiring ATV owners and operators to meet certain safety standards, e.g., completion of nationally recognized training and safety education courses;
3. Making more broadly applicable the requirements for ATV operation that are currently limited to DNR-regulated land;
4. Restricting or limiting ATV use among certain age groups, e.g., restricting adult-sized ATV to those at least 16 years of age;
5. Requiring uniform recordkeeping and reporting of ATV-related injuries; and

¹⁶ See <http://www.iowaohv.com/>

¹⁷ Personal Communication with State Highway Administration Recreational Trails Grant staff. October 2009.

6. Public awareness efforts to improve knowledge of the risks associated with ATV operation, and, in particular, of the dangers to children and adolescents¹⁸.

Near-Term Recommendations:

The following are recommendations that should be implemented prior to the upcoming high-use season (Spring 2010). Many of these overlap and/or duplicate the recommendations of the individual Regional PITs. These recommendations are not in priority order as the timing requires they occur in parallel across the respective geographic areas of MD:

- Immediate Outreach, Education and Enforcement Recommendations:
 - Include information about illegal ORV use (e.g., penalties, ecological impacts, economic costs, etc.) in the DNR hunting and fishing guides.
 - Identify adjacent landowners who are using DNR land for their own ORV access and have NRP communicate directly with them regarding the impacts and consequences of their actions.
 - Evaluate current ORV Permit fee structure and consider increasing the fees to cover costs for maintenance of trails and an extensive outreach and education campaign, including trail guide/map book for all trails (see Iowa OHV guide referenced supra).
 - Evaluate fine and bond schedule for ORV violations. Consider increased penalties for violations and escalating penalties, including forfeiture of ORVs and equipment for repeat offenders.
 - Incorporate regular ATV patrols into the NRP responsibilities and reporting requirements. Add a new CAD reporting code to the NRP reporting system to track location of enforcement efforts and identify problem areas and effectiveness of response to those areas.
- Immediate On-the-Ground Recommendations:
 - Review the ORV PIT Access Database and identify those trails listed as having “High” impacts on the scaled-rating system. Repair or eliminate sites and begin immediately to influence access/use of those trails with barriers, signage and increased enforcement presence.
 - Secure the highly-impacted areas and determine needs and costs to restore these areas.
 - Chandler Trail (Pocomoke State Forest):
 - Relocate portions of this trail that are no longer sustainable and/or are negatively impacting important natural communities..
 - Work with the ER Stewardship Team and representatives of the local ORV stakeholder community to identify alternative placement for those sections of the Chandler Trail that are currently impacting sensitive resources. Use Recreational Trail grant funds to underwrite the relocation and new placement efforts.
 - Greenridge State Forest Trail:
 - Convene WR stakeholder community and announce planned closure and relocation of Greenridge State Forest trail. As the most popular ORV trail in MD, this site requires the most attention and deliberate communication and stakeholder management.
 - Move forward a pilot program of one small team of staff working with the Stakeholder group and the Greenridge State Forest Citizen’s Advisory Group, to find an alternative site for this trail. This will represent a good-faith effort with this user group that we will use their funding sources wisely while managing their needs and, in turn, help relocate them to poorer ecological value land.

¹⁸ MIEMS at 11.

- Relocation to a new trail designed for modern-day ORV use will provide ecological benefits to the Greenridge ecosystem while offsetting the human safety and DNR capital impacts of the current trail system. This effort will also build credibility with this stakeholder community --- an important step toward informed consent in the future.
- Poplar Lick Trail (Savage River State Forest):
 - Review the impacts on the stream system in the context of extensive mitigation and upgrade features that were added to the trail subsequent to the prior study. Improve signage, outreach and enforcement with users of this trail.
 - Remember that many of the problem areas documented during the study were borne of street-legal SUV's or pickup trucks so outreach must include those who use this trail from that community and/or those who camp along this stretch of trail.

Conclusion:

As the fastest-growing segment of the outdoor recreation industry there's no way to simply ignore the fact that folks are buying and riding ORVs. We need to be proactive in facilitating responsible use and assisting with locating places for them to ride. Providing legal places to ride on 'low-value' dirt won't keep all of the bad-apples off of our 'good dirt' but it's certainly better than hoping they simply go away . . . the data show that is simply not going to happen.

Recognition

The following individuals volunteered to serve on the WHS ORV Assessment PIT. In addition to their day-to-day DNR responsibilities, many of these individuals took on the additional duty of identifying field sites, visiting those locations in person, collecting data and images on these sites and reporting out the findings. Others were responsible for IT support and database management and/or helping draft the final report. In addition, their peers in the Maryland Park Service, Maryland Forest Service and Maryland Fisheries Service provided additional feedback and/or recommendations to support the final report. The Maryland Natural Resources Police and DNR Office of Communications also provided input to this project and will be primary to the future management of this issue along with the new DNR “Trails Office”.

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