

Draft Michigan Off-Road Vehicle (ORV) Plan 2005

Dr. Charles Nelson
Michigan State University



Submitted to the Michigan Department of Natural Resources
May 4, 2005

Table of Contents

Purpose	4
Legislative and Planning History of Michigan’s ORV Program	4
Legal Definition of ORV	4
Prior to 1975	5
Public Act 319 of 1975	5
1979 ORV Plan	6
Creation of the Designated System	7
Public Act 17 of 1991	7
1991-1996 State Comprehensive Outdoor Recreation Plan	8
1993 Upper Peninsula (UP) Task Force Report and Subsequent Natural Resource Commission (NRC) Action	9
Public Act 58 of 1995	9
Governor’s Executive Order 1995-9	9
Forest Recreation 2000 and Public Act 418 of 1998	10
1997 UP Task Force Report and Subsequent NRC Action	10
Public Act 111 of 2003	11
2003-2007 State Comprehensive Outdoor Recreation Plan	11
Overview of Michigan’s ORV Program	11
Administration	12
Trail Maintenance and Development	12
Environmental Damage Restoration	12
Law Enforcement	14
Safety Education	17
Accommodations for Persons with Disabilities	17
ORV Trail, Route and Area System	18
Initial Inventory	18
Initial Identification and Evaluation Criteria	18
Initial System Designation	19
1996 System Inventory, Evaluation and Resource Management Plan	20
2004 Inventory and Evaluation	22
2004 Resource Management Plan for Trail Rated Fair or Poor	28
Trends in Michigan ORV Use and Users	40
ORV Registration and Licensing	41
Statewide ORV Use and User Studies	41
Statewide Economic Impacts	43
Recent Surveys of Michigan Local Government Entities	43
County Sheriffs	43
Northern Michigan Road Commission Managers	44
ORV Programs in Other States	45
ORV Accidents and Fatalities in Michigan	46
Public Comment at Regional ORV Meetings	46
Lansing Meeting	47
Grayling Meeting	48
Marquette Meeting	48

Written Public Comment Provided to the DNR	48
ORV Grant Recipient Workshops	49
Environmental Damage Restoration	50
Trail Maintenance	50
Comments of DNR Field Personnel from Regional Workshops	51
Grayling Workshop	51
Marquette Workshop	52
US Forest Service ORV Policy	52
ORV Action Recommendations, Rationale and Fiscal Implications	53
Designated System	53
System Maintenance	58
Enduro Motorcycle Events	60
Program Administration	60
Damage Restoration	61
Law Enforcement	63
Safety Education	65
Licensing	68
Acknowledgements	69
Literature Cited	69
Appendix A	71
ORV Trails and Routes Assessment Form	71
County Road Commission Manager ORV Questionnaire	76
ORV Enforcement and Safety Sheriff Questionnaire	78
State Off-Highway Vehicle/Off-Road Vehicle Coordinator Questionnaire	83

Purpose

The Michigan ORV program is managed as an important part of the mission of the Michigan Department of Natural Resources (DNR) to conserve, protect and provide for public use and enjoyment Michigan's natural resources for present and future generations of citizens and visitors. The specific mandate for this plan is contained in MCL 324.81123. It states that the DNR "shall develop a comprehensive plan for the management of ORV use of areas, routes and trails maintained by or under the jurisdiction of the DNR or local unit of government...The plan shall, as a minimum, set forth the following methods and timetable:

- (a) The inventorying, by appropriate means, of all areas, forest roads and forest trails used by or suitable for use by ORVs
- (b) The identification and evaluation of the suitability of areas, forest roads and forest trails to sustain ORV use
- (c) The designation of areas, forest roads, and forest trails for ORV use, including use by persons with disabilities
- (d) The development of resource management plans to maintain areas, forest roads, or forest trails and to restore or reconstruct damaged areas, forest roads, or forest trails. The plans shall include consideration of the social, economic, and environmental impact of ORV use."

Besides meeting these minimum mandates, this plan also:

- (a) Provides a legislative and planning history of the Michigan ORV program and links it the DNR's core mission
- (b) Provides an overview of the current ORV program
- (c) Reviews ORV use and user trends
- (d) Summarizes public input from workshops, public information meetings and written comments about ORV issues and management
- (e) Recommends specific actions to promote environmental integrity related to ORV use, better meet demand for ORV riding opportunity, improve ORV rider safety, enhance community and statewide economic development, increase effectiveness of ORV enforcement and minimize social conflict

Legislative and Planning History of Michigan's ORV Program

Legal Definition of an ORV and Types of ORVs

MCL 324.81101 (m) defines an ORV as "a motor driven off-road vehicle capable of cross-country travel without benefit of a road or trail, on or immediately over land, snow, ice, marsh, swampland, or other natural terrain. ORV includes, but is not limited to, a multi-track or multi-wheel drive vehicle, an all-terrain vehicle (ATV), a motorcycle or related 2-wheel, 3-wheel, or 4-wheel vehicle, an amphibious machine, a ground effect air cushion vehicle, or other means of transportation deriving motive power from a source other than muscle or wind." This does not include registered snowmobiles, farm vehicles used for farming, a vehicle used for military, fire, emergency, or law enforcement purposes, vehicles owned by energy producers or utilities and used to maintain their facilities or on their easements, logging vehicles used in logging or registered aircraft.

There is a wide array of ORV types/technology to meet many rider needs. There are two principal types of off-road motorcycles. Both evolved from street motorcycles after World War II. The first is the moto cross or dirt bike. This cycle is designed to be used solely off paved roads and generally lacks the appropriate equipment to be licensed by the Michigan Secretary of State as “street legal”. The second type of motorcycle is the dual sport or enduro bike. These cycles have the appropriate equipment to be licensed by the Michigan Secretary of State as “street legal”.

ATVs emerged in the early 1970s and have steadily grown to be the most common ORV in Michigan. They have balloon style tires and initially had a tread width of slightly less than 50”. At first, most ATVs were three wheeled vehicles, but due to safety concerns, they have been supplanted by 4-wheeled vehicles. ATVs have high ground clearance, the capability to carry significant loads and many have 4-wheel drive. They come in “workhorse” varieties and those more suited to trail-riding (lightweight, more nimble) including youth sized models. The workhorse varieties have numerous after-market attachments that can facilitate snow plowing, planting, spraying and mowing vegetation, can accommodate an incredible variety of containers that can carry everything from tools to firearms and provide the opportunity to tow a trailer or other device behind. They are used in many non-trail applications including hunting, ice fishing, etc.

More recently, larger vehicles that have cross-over applications in agriculture, land management and construction with a 56” tread width are becoming more prevalent. Some have 6 or more tires and are touted to be at home on land, ice or water. These are not characterized by the law as ATVs as they do not fit the definition of “low pressure tires, has a seat designed to be straddled by the rider” (MCL 324.81101). Currently, these vehicles are not able to be licensed by the Michigan Secretary of State as “street legal”.

Full-size, 4-wheel drive trucks and sport utility vehicles along with large specialty vehicles round out the ORV picture. Initially enthusiasts converted military jeeps and other large vehicles to ride over sand dunes and lightly maintained backwoods roads. Today, 4-wheel drive full size vehicles are a major part of the US automobile/truck market. Typically, with the exception of some specialty vehicles, these vehicles do have the appropriate equipment to be “street legal” and many are used only occasionally in off-road applications and primarily for day-to-day road transportation. They have high ground clearance, power in all four wheels and can carry multiple passengers and equipment.

Prior to 1975

Prior to 1968, ORVs were unregulated in the State of Michigan. In 1968, the Natural Resource Commission (NRC) enacted state land use rules that prohibited ORV operation in State Game and Wildlife Areas. This is also the year that the Michigan Cycle Conservation Club was formed and members began to identify and develop the Michigan Cross Country Cycle Trail. Most riders of the trail as it was being formed rode dual sport motorcycles, street legal yet functional off-road.

Public Act 319 of 1975

The first statutory regulation of ORVs in Michigan was through Public Act 319 of 1975. It mandated Michigan's first ORV plan, with a principal outcome to be development of a comprehensive system of ORV trails, routes and areas. It also provided for the registration of ORVs with the State of Michigan, with registration money going to the general fund with the understanding some portion would be appropriated to ORV related programs. The law also mandated a study to assess the amount of state gasoline sales tax generated by ORV use with the suggestion that these tax dollars would be an appropriate source of ORV program funding. There was no restricted fund established for ORV programs.

1979 ORV Plan

In developing this plan, the following management objectives identified:

- (a) Protect natural resources and ecosystems
- (b) Separate conflicting uses
- (c) Promote user safety
- (d) Within the above constraints, provide optimum opportunity for recreation on state-owned lands by ORV users
- (e) Encourage and assist to the extent possible development of ORV facilities by local government and the private sector
- (f) Continue reevaluation of ORV needs, programs and planning on a systematic basis

The first four objectives (a-d) above, constitute a clear enunciation of the DNR's core mission to conserve, protect and provide for public use and enjoyment Michigan's natural resources for present and future generations. Objective (e) acknowledges the need of the DNR for partners in managing ORVs and (f) anticipates the dynamic nature of ORV management.

In substance, the 1979 plan focuses ORV use on state forest lands and thus away from state parks and state wildlife areas. It also acknowledges the importance of ORV opportunities provided by other agencies, in particular the US Forest Service in the northern 2/3 of Michigan and local units of government in the southern Lower Peninsula. For state forests, it recommends the closure of all state forest lands to ORV use except for forest roads and designated trails, routes and areas to minimize social conflict and protect environmental integrity. It notes that there is significant demand for ORV use in southern Lower Michigan, where there are no state forest lands and relatively little public land. To meet some of this demand it encourages DNR assistance (financial and technical) for local units of government, non-profit organizations and the private sector to develop ORV areas in the southern third of Michigan.

In addition the plan provided:

- (a) An inventory of all areas, forest roads, and forest trails suitable for ORV use and criteria to evaluate that suitability
- (b) The trail proposal procedure to designate ORV facilities

(c) DNR Forest Management Division policies for ORV facilities located on state forest land

The 1979 plan executive summary concludes: “This plan does not, and cannot, meet the full desires of either motorized or non-motorized forest users. It is recognized that user demand for trail, routes and areas of unrestricted use will not be completely met by this plan. Neither will the plan fully meet the desires of others for areas of quiet and tranquility in the forests. But better separation of conflicting uses provided by this plan is a step toward greater achievement of goals of both of these user groups, and the DNR stands ready to assist such groups. In the specific area of ORV facilities, citizen cooperation in carrying out surveys, in submitting areas for consideration and in working with local units of government in developing facilities is encouraged and requested.” (DNR 1979:ii).

Creation of the Designated ORV System

The Michigan Natural Resource Commission (NRC) approved the plan in 1978, closing all state forest lands to ORV use except for forest roads and designated trails, routes and areas. However, administrative rules were promulgated in 1980 that mandated that 1,500 miles or more of designated ORV trails and routes be in place on state forests prior to the recommended ORV use restrictions going into effect. Completion of this designated system took slightly more than a decade. In 1991, the NRC approved a system of 2,721 miles of ORV trails and routes and over 1,800 acres of designated ORV area in the northern Lower Peninsula.

Public Act 17 of 1991

In 1991 the Michigan legislature passed and the governor signed Public Act 17 of 1991, which further restricted ORV use in Lower Peninsula state forests to designated trails, routes and areas, closing undesignated forest roads to ORV use. A key rationale for this approach was to limit further creation of user created trails and associated resource damage. One example was from a new class of four-wheel vehicle, the ATV. There was concern that ways through the forest were created through initial illegal cross-country use. Then, prior to Public Act 17, the definition of a forest road from PA 319 of 1975 had been “a hard surfaced road, gravel or dirt road, fire lane, abandoned railroad right of way, logging road, or *way capable of travel by a four-wheel vehicle*, except an interstate, state or county highway”. So while the first few ATVs traveling cross-country were illegal, subsequent ATV users were indeed on a “way capable of travel by a four-wheel vehicle”. PA 17 also redefined a forest road as “a hard surface road, gravel or dirt road or other route *capable of travel by a 2-wheel drive, 4-wheel conventional vehicle designed for highway use*, except and interstate state or county highway”. Other factors involved included the difficulty for riders in determining who had jurisdiction of roads in forested areas, increasing population densities in the northern Lower Peninsula and associated safety concerns of mixing ORV and highway traffic and the non-contiguous checkboard nature of state forest ownership and concerns associated with trespass on private lands adjacent to public forests.

Public Act 17 also shifted vehicle registration requirements from registration with the Secretary of State to annual licensing by the DNR, with the Secretary of State only

handling titling of vehicles. Licensing provided a more significant revenue stream for ORV management and was required for ORVs operated on public lands or frozen waters in Michigan, whether by a resident or visitor to Michigan who had their ORV registered in another state.

Additional impacts of Public Act 17 are:

- (a) Created the restricted ORV Trail Improvement Fund [funded solely by ORV license fees and for use to construct and maintain the designated ORV system, enforce ORV laws and regulations, restore ORV damage on public lands and the DNR to administer the fund]
- (b) Created the restricted ORV Safety Education Fund [funded solely by ORV license fees to develop and deliver ORV safety education to certify those 10-16 and educate those older and for the Michigan Department of Education to administer]
- (c) Shifted ORV program funding to a grant system administered by the DNR
- (d) Exempted the Upper Peninsula from the state forest “closed unless open policy” pending the report of an Upper Peninsula ORV task force
- (e) Established new exhaust noise emission standards
- (f) Increased penalties for violation of the ORV law
- (g) Created an ORV advisory committee (subsequently repealed and now operated administratively by the DNR as the Michigan ORV Advisory Board)

Actions (a-d) had a sunset date of January 1, 1995. Of the actions, the establishment of a grant system to manage the designated ORV trail system and provide ORV safety education is highly significant. This is one of the two major partnership situations (snowmobiling is the other) where the legislature has turned over significant day-to-day maintenance responsibilities for a major set of state owned natural resource recreation facilities to grantees, most of whom are non-profit organizations representing users. This type and level of privatization is unprecedented in the management of Michigan state parks, state wildlife areas and state water access sites. The only similar program is the management of the state system of designated snowmobile trails, which are also located on state forest lands (as well as on national forests and the private lands of cooperating landowners).

1991-1996 State Comprehensive Outdoor Recreation Plan (SCORP)

The 1991 SCORP (approved by the NRC in 1992) placed a high priority on the full range of Michigan trail opportunities in the Michigan Statewide Trails Initiative, Appendix C of the plan. In particular regarding ORV opportunity, the Trails Initiative cited the Southeast Michigan Off-Road Vehicle Report (DNR 1991) which recommended additional ORV riding opportunities be developed in southeastern Michigan by local units of government and the private sector through grants, land leasing and modifying existing public lands for ORV use. On a statewide basis, the Trails Initiative regarding ORV opportunity stressed the need for additional partnerships with other public land managers and the private sector to enhance trail development, management and ORV safety education. It also noted the on-going need for accurate ORV use and user information.

1993 UP Task Force Report and Subsequent NRC Action

The UP Task Force recommended that UP state forest lands remain open to ORV use on forest roads and the designated trail, route and area system in the UP. In 1994, the NRC stated the following general policy:

- (a) The NRC strongly supports the existing ORV regulations in the Lower Peninsula and reaffirms state forest policy that ORVs be used only on designated forest roads (routes), trails and use areas.
- (b) The NRC also finds that implementation of this ORV policy for state forests in the UP be deferred for three years from the sunset day (1/1/95) in PA 17 of 1991 to January 1998
- (c) The NRC authorizes the director of the DNR to establish a committee to assess any future ORV damage in the UP during this deferred period. The committee will recommend to the Director whether or not ORV damage poses a significant threat to the region's resources, thus whether the Lower Peninsula policy should be implemented in the UP or whether further deferral is appropriate. This should be coordinated with US Forest Service and forest products industry representatives to work toward a consistent ORV policy across the UP.
- (d) If the NRC determines there is a significant threat to the region's resources, the Lower Peninsula policy can be immediately implemented and specific areas where damage has occurred closed to ORV use.

Public Act 58 of 1995

This legislation removed the sunset clause for the ORV Trail Improvement Fund, closed unless posted open provisions in the Lower Peninsula and the ORV Safety Education Fund. It also raised the price of an annual ORV license from \$10 to \$16.25 per vehicle. In addition, it reformulated how the ORV Trail Improvement Fund should be distributed through grants to governmental agencies (including the DNR) and non-profits. The new formula was:

- (a) Not less than 50% revenues for trail, area, route construction, maintenance, acquisition
- (b) Not less than 31.25% for trail, route and area enforcement
- (c) Not less than 12.5% for ORV damage restoration on public lands
- (d) Not more than 3.125% for administration
- (e) Remainder (3.125%) for trails, enforcement or restoration as needed

Governor's Executive Order 1995-9

Through this executive order, Governor Engler abolished the Off-Road Vehicle Trails Advisory Committee (and a number of other advisory committees) and transferred all statutory authorities to the Natural Resources Commission on July 17, 1995. In October 1995, the NRC re-established an ORV Advisory Board of seven members and in December clarified the new board's roles, responsibilities and terms. This remains the authority for the current State ORV Advisory Board.

Forest Recreation 2000 Strategic Plan and PA 418 of 1998

The State Forest Recreation Advisory Committee (FRAC), created by statute in the DNR's FY1990-91 appropriation legislation, through a multi-year effort crafted a strategic plan for forest recreation entitled "Forest Recreation 2000". The plan received public input at 9 public information meetings across the state attended by more than 500 people. The FRAC included representatives of the full range of forest recreation activities including motorized trail users, non-motorized trail users, the environmental community, hunters and anglers, the forest products industry, recreation educators and local and federal public land managers. The NRC then approved the plan in November 1995. It envisioned:

- (a) State forest recreation is recognized as an essential part of the quality of life and the economic well-being of Michigan
- (b) State forests are professionally managed to provide sustained opportunities for recreation, wood, environmental quality and a diverse plant and animal community
- (c) Forest recreation is professionally managed in an integrated system that complements other recreation opportunities and provides harmony between recreationists, the forest products industry, other forest users and owners, and the environment
- (d) The forest recreation system focuses on supporting recreation activities and experiences where a large land base, rustic facilities and the forest and the values in holds are critical to the activity
- (e) Opportunities are available for individuals, commercial and non-profit organizations to work cooperatively with the DNR Forest Management Division (now Forest, Mineral and Fire Management) in enhancing and maintaining recreation facilities
- (f) Forest recreationists pay their fair share and the state of Michigan provides an additional stable funding source in recognition of the importance of forest recreation to Michigan citizens and Michigan's economy

The concept of an integrated forest recreation system was translated into law in Public Act 418 of 1998 (MCL 324.831) as it mandates in 83102:

"The DNR shall develop, operate, maintain, and promote an integrated recreation system that provides opportunities for hunting, fishing, camping, hiking, snowmobiling, *off-road vehicle trail riding* (emphasis added) boating, trail related activities, and other forms of recreation *within each state forest* (emphasis added). In developing, operating, maintaining, and promoting this recreation system, the department shall focus on maintaining the integrity of the forest while supporting recreation activities and experiences for which a large land base, rustic nature, and the forest and forest values are critical to the activity."

1997 UP ORV Task Force Report and Subsequent NRC Action

Formed in 1996 based on the 1994 NRC request to reevaluate the situation in the UP, the UP Task Force reported in 1997:

- (a) The policy of allowing ORV use on non-designated forest roads and trails, as well as the designated ORV system should continue in the UP
- (b) A system of monitoring future impacts of this policy, particularly as it may impact the areas natural resources, must be developed
- (c) Enforcement of current ORV regulations must continue as a high priority across the UP
- (d) The DNR Director should work with the Forest Service, forest products industry and state forest managers to develop a consistent ORV policy across the UP
- (e) Continued review and study of this deferral of the Lower Peninsula rules is not needed unless sparked by negative impacts seen in system monitoring as recommended above

The NRC unanimously supported these recommendations.

Public Act 111 of 2003

This act amended the ORV law to transfer the ORV Safety Education program back to the DNR from the Michigan Department of Education.

2003-2007 State Comprehensive Outdoor Recreation Plan

The current SCORP has seven priorities, each of which directly relates to this plan. The highest priority of the SCORP and of the DNR is resource conservation. This includes the restoration of environmental damage to public lands and waters and the implementation of best management practices on the public lands such as proper location and maintenance of recreation facilities such as ORV trails to safeguard the environment.

Other key priorities include providing motorized trail opportunities. The SCORP (DNR 2003:20) notes “User safety and social conflict reduction are key motorized trail challenges that can be met in part through additional, appropriate trails providing safer passage for trail users to goods and services. Securing long-term trail corridors is a priority of this plan”. Another priority is to provide universal access to outdoor recreation opportunity including ORV trails to enable the full range of Michigianians and visitors to enjoy outdoor recreation.

Additional priorities include improving the state forest recreation infrastructure (e.g. ORV trail system and attendant forest campgrounds), improving the state park infrastructure (e.g. Silver Lake ORV area), improve the range, quality and quantity of community outdoor recreation opportunities (e.g. additional local public ORV opportunities with willing local entities) and improved communications and coordination among recreation providers (e.g. improved, more regular assessment of the statewide ORV trail network and integrating state, federal and local ORV opportunities).

Overview of Michigan’s ORV Program

This section provides information on the major aspects of the current ORV program. These include administration, trail maintenance and development, law enforcement, environmental damage restoration and safety education.

Administration

The overall ORV program is administered by the DNR through the Forest, Mineral and Fire Management Division (FMFM). This recognizes that 86% of the designated ORV trail/route system and the majority of the ORV area system is on state forest lands. Day-to-day management responsibility is assigned to the State Motorized Trail Coordinator in FMFM. ORV program grants are administered through FMFM and the DNR Office of Grants, Contracts and Customer Systems (GCACS). ORV licensing is administered by GCACS and ORV safety education is administered by the DNR Law Enforcement Division and GCACS.

Trail Maintenance and Development

Annually, not less than 50% of the ORV Trail Improvement Fund shall be distributed in the form of grants for the purpose of planning, improving, constructing, signing and maintaining ORV trails, areas and routes and access to those trails, areas and routes, the leasing of land, the acquisition of easements, permits or other agreements for the use of land for ORV trails, areas, and routes, to public agencies and non-profit incorporated clubs and organizations. [MCL 324.81119 (1)]

Non-profit organizations and units of government, including federal (US Forest Service), state (Michigan DNR Forest, Mineral and Fire Management and Park and Recreation Divisions) and local units all are involved in trail maintenance. Maintenance must meet standards enumerated in IC 1990 "ORV Trail Improvement Fund Procedures Manual", IC 1991 "DNR ORV Trail and Route Maintenance Handbook" and IC 3600 "ORV Trail Maintenance Grant Application Information". These standards focus on trail clearance and signage. Trail clearance standards are:

- (a) **Motorcycle trails** cleared to 24" width at ground level and 40" from handlebar height up to 8'
- (b) **ATV trails** cleared to 50" width from ground level up to 8'
- (c) **ORV routes** cleared to 72" width from ground level up to 8'

Trail sign standards involve stop signs, stop ahead signs, mixed traffic signs, triangular confidence markers, triangular guide signs (type of trail i.e. visual depiction of Michigan Cross Country Cycle Trail, Motorcycle Trail, ATV Trail or ORV Route), directional guide signs (directional arrows with the type of trail written below the arrow), information signs (includes "you are here maps" and trailhead signs with trail name, distances, emergency phone numbers, etc.) and street licensing notice (when Secretary of State licensing is required). The DNR sign policy (Sign Manual: Department of Natural Resources, 1984), for all trails (motorized and non-motorized) is to require a trail by trail sign plan. This has not been done in the ORV program.

Environmental Damage Restoration

Annually, not less than 12.5% of the ORV Trail Improvement Fund shall be distributed in the form of grants to public agencies and non-profit incorporated clubs for the purpose of

restoring environmental damage caused by ORV use to public lands. [MCL 324.81119 (5)]

The DNR’s resource management plan for the restoration of public lands has three categories of actions in priority order:

- (a) reduce or eliminate erosion into any body of water
- (b) restore damage in any designated roadless area, state natural river corridor or federal wild and scenic river corridor
- (c) restore damage to aesthetically sensitive areas

Techniques to restore damage typically involve erecting barriers to exclude illegal ORV use (natural or human made), restoring typical soil characteristics (e.g. topsoil to an eroded hillside) and reseeding or replanting with appropriate seed mixtures or root stock to reduce erosion and restore native vegetation. This may be done at small discrete locations such as illegal hill climbs or on longer sections of illegal trail. On an illegal trail, native materials such as stone, brush or stumps may be used to bar entry to the illegal trail and the treadway is reseeded or prepared in a way to promote re-vegetation.

However, based on the initial Michigan state forest certification review, Michigan’s current efforts at restoration are not fully meeting the need for restoration. Reviewers found visible ORV damage to state forest land near and away from the designated trail system. Likewise, DNR forest recreation specialists, DNR trail analysts and conservation officers in the northern Lower Peninsula and the Upper Peninsula provided considerable photographic information on current public land ORV damage sites, including digital photos and GPS location data.

The DNR Forest, Minerals and Fire Management Division supplied data for recent trail maintenance and restoration grants (Table 1).

Table 1. ORV trail maintenance and restoration grants 2002-05 (a).

Year	No. Orgs. Req. Mntc. \$ (b)	Mntc. Grant \$ Req.	No. Orgs. Rec. Mntc. \$	Mntc. Grant \$ Recommended	No. Orgs. Req. Rest. \$	Rest. Grant \$ Req.	No. Orgs. Rec. Rest \$	Rest. Grant \$ Recommended
2002-03	17	946,951	17	916,060	4	244,811	3	226,440
2003-04	22	1,189,358	15	900,800	7	342,478	4	253,930
2004-05	20	1,134,569	16	863,619	4	262,506	3	184,766

- (a) DNR counted as one organization, US Forest Service counted as one organization
- (b) \$ amount rounded to nearest dollar for all \$ columns

The data suggests that the number of trail maintenance and restoration grant sponsors is static to slightly declining. In particular, very few organizations are involved in ORV damage restoration. Over the three year period, expenditures are slightly declining trail maintenance and mixed in damage restoration. Annually, these reported expenditures for trail maintenance and ORV grants represent approximately 45% of the annual revenue from ORV licenses, while 324.81119 provides a formula that 62.5% of the appropriated revenues will be used for these two functions (50% for trail maintenance and 122.5% for damage restoration).

A number of factors account for this difference. First, legislative appropriations have not kept pace with the annual growth of ORV license sales (see Table 11, page 41). Further, some grants/projects that are funded come in under budget or the grantee is unable to perform and the grant lapses with the money returning to the Trail Improvement Fund. The upshot is that as of September 30, 2004, the DNR Office of Budget and Support Services reported there was a balance of \$4,027,400 in the ORV Trail Improvement Fund. This fund balance provides a unique opportunity to fund substantial capital improvements to the system, but also poses a risk that needs for trail maintenance, law enforcement, environmental damage restoration and administration are not being fully met or that the current fee structure is more than sufficient to cover program costs and money could be appropriated for other purposes.

Law Enforcement

Annually, not less than 31.25% of the ORV Trail Improvement Fund shall be distributed each year for enforcement and purchase of any necessary equipment used for enforcement. Of this amount, 24% shall be available to county sheriffs and the remaining balance shall be used by the DNR for enforcement and the purchase of any necessary equipment for enforcement. In considering funding for county sheriffs, the DNR shall consider the:

- (a) Number of miles of ORV trails, routes or areas within the county
- (b) Number of sheriff department employees available for ORV enforcement
- (c) Estimated number of ORVs within the county and that are brought into the county
- (d) Estimated number of ORV days within the county
- (e) Any other factors the DNR considers appropriate

County sheriffs are also required to file reports with the DNR Office of Contracts, Grants and Customer Systems concerning their enforcement activities to verify expenditures. The US Forest Service also provides enforcement of ORV rules in the Lower Peninsula, as the Huron-Manistee National Forests have the same ORV regulations as Lower Peninsula state forests. However, currently the Forest Service is not eligible to receive ORV enforcement grants. The following table provides payments to counties for ORV enforcement for 2001-2005 (Table 2).

Table 2. County ORV enforcement grant activity, 2001-05 (a).

Year	No. Counties Provided Enforcement Grant	Grant \$ Provided to Counties	No. Counties Receive Payment	\$ Payment Made to Counties	% Grant \$ Available Paid to Counties
2001-02	NA	NA	20	160,934	NA
2002-03	20	247,133	19	182,444	74%
2003-04	22	227,700	20	152,970	67%
2004-05	26	227,700	NA – FY not complete	NA – FY not complete	NA

(a) Source: DNR Grants, Contracts and Customer Systems

The table illustrates that some counties intend to provide ORV enforcement, but are not always able to follow through due to a variety of circumstances, most relating to a lack of personnel. As a result, each year actual payments to counties have not risen to the level of enforcement grant funds allocated to counties. Counties who have continued their involvement with ORV enforcement have expressed concern that due to requests for funds exceeding available funds, the DNR has not allowed ORV enforcement grants to support equipment purchases by sheriffs in recent years. It is also noteworthy that the number of counties applying for enforcement grants is increasing.

Regarding enforcement costs, unlike its sister programs, Marine Safety Enforcement and Snowmobile Enforcement, which allow counties to use deputies who do not have state certification from the Michigan Council on Law Enforcement Safety (MCOLES), ORV enforcement requires MCOLES certified officers. This increases the costs for counties per hour of patrol, but it also provides a more highly trained, better equipped enforcement officer.

What are the similarities and differences in ORV enforcement efforts by DNR conservation officers and county sheriffs? Conservation officer data is available for 1998 – 2000 for the counties of Clare, Gladwin, Roscommon, Ogemaw, Crawford, Iosco and Oscoda (DNR Law Enforcement District 7 during the period) provided by Lt. Walt Mikula, District Law Supervisor. This was previously published in Nelson and Lynch (2002) in an evaluation of the AuSable Pilot Project, an effort to improve compliance in part of DNR Enforcement District 7 through additional enforcement effort and improved signage. Data from 2002-03 from participating county sheriffs is from reports required by the ORV Law Enforcement grant agreement and submitted to the DNR Office of Grants, Contracts and Customer Systems by most counties. Enforcement can be compared on the number of contacts per citation and contacts per warning and citation (Table 3).

Table 3. Comparison of recent ORV enforcement activity between counties and DNR Law Enforcement Division enforcement (a).

Agency/Year	Contacts	Citations	Warnings	Contacts/Citation	Contacts/Citation + Warning
DNR LED	3,512	1,537	1,443	2.3	1.2

District 7 1998					
DNR LED District 7 1999	3,977	1,340	1,297	3.1	1.5
DNR District 7 2000	2,431	842	823	3.0	1.5
20 County Sheriffs 2002	22,144	441	1,077	50.2	14.6
12 County Sheriffs 2003	32,483	649	1786	50.0	13.3

(a) Source: DNR 1998-2000 data from DNR Lt. Walt Mikula, DNR Law Enforcement Division as reported in Nelson and Lynch (2002). County 2002 and 2003 data from DNR Grants, Contracts and Customer Systems.

The data strongly suggests that conservation officers tend to be more likely to cite an individual when they make a contact. This may be due to the circumstances of the contacts, such as DNR conservation officers targeting contacts at those they believe are in violation of the law or sheriff deputies making many contacts at trailheads before people are actually riding, encouraging people to return home for forgotten equipment, purchase a proper ORV license, etc., thus not issuing a citation or a warning.

When examining statewide patrol efforts, conservation officers provide approximately $\frac{3}{4}$ of the patrol hours annually (Table 4).

Table 4. Statewide patrol hours and citations for ORV enforcement by DNR conservation officers and county sheriffs participating in ORV enforcement grant program, 2001-2003 (a).

Year	Conservation Officer Patrol Hours	Conservation Officer Citations	Conservation Officer Citations/Hour	Sheriff Patrol Hours (b)	Sheriff Citations (b)	Sheriff Citations/Hour (b)
2001	18,328	3,771	4.9	NA	NA	NA
2002	20,634	3,810	5.4	6,099	441	13.8
2003	17,670	3,776	4.7	6,715	649	10.3

(a) Source: DNR data from DNR Law Enforcement Division; Sheriff data from DNR Grants, Contracts and Customer Systems.

(b) Sheriff data is for 20 of 21 counties participating in ORV grants in 2002 and 12 of 21 counties participating in ORV grants in 2003.

Each patrol hour by DNR conservation officers is two to three times more likely to result in a citation than a patrol hour by a county sheriff deputy. The proportion of the ORV patrol hours provided DNR Law Enforcement Division appears to be similar to the 76%

of ORV enforcement funds provided to the DNR, while the county sheriff patrol hours are similar to the 24% of ORV enforcement grant dollars provided to county sheriffs.

Safety Education

The DNR shall implement a comprehensive ORV information, safety education, and training program that shall include the training of operators and the preparation and dissemination of information and safety advice to the public. The program shall provide for the training of youthful operators and for the issuance of ORV safety certificates to those who successfully complete the training under the program. The safety program instruction may include separate instruction for each type of ORV. The DNR shall cooperate with private organizations and associations, public and private corporations, other state departments and local units of government. The DNR shall also consult with ORV and environmental organizations and associations in regard to the subject matter of a training program and performance testing that leads to certification of ORV operators. It is **only** lawful for youthful operators (those under 16 and above 9) to operate some types of ORVs with both a safety certificate **and** the direct visual supervision of an adult. [MCL 324.81129 selected sections]

From 1991 to 2003, ORV safety education was under the purview of the Michigan Department of Education. They provided grants primarily to non-profit entities to conduct hands-on education and certification testing. Based on information provided to the DNR from the Michigan Department of Education, for years 1998 through 2003, 12,156 youth were certified, or 2,026 per year.

However, DNR Law Enforcement officials deemed that the training was taken by and available to too few youth. That relatively few youth who ride licensed ORVs had completed the training was substantiated by the most recent (1998-99) statewide ORV use and user study. That research concluded that about 1/3 of youth 12-15 who rode licensed ORVs had completed the safety certification course. For youth 10-11 who rode a licensed ORV, the proportion was 1/6 completing the course (Nelson et al. 2000). It is estimated that approximately 8,000 youth annually need to be certified to provide certification for all youth who ride licensed ORVs. This low level of certification and concerns about the availability of education led the DNR to not fully enforce certification requirements. Recently, Public Act 111 of 2003 transferred the authority for ORV safety education back to DNR. The DNR is currently seeking ways to increase the proportion of youth ORV riders completing ORV safety training (including certification) and is poised to fully enforce the safety certificate provision for youth.

Accommodations for Persons with Disabilities

The DNR recognizes, consistent with applicable state and federal laws, the needs of persons with disabilities to use ORVs. Currently persons that meet the following criteria are permitted to operate licensed ATVs/ORVs less than 50" wide on forest roads that are open to public vehicular travel on state lands (including those not posted open to ORVs):

- Those persons issued a valid temporary or permanent handicapper parking permit issued by the Secretary of State.
- Those persons holding Permits to Hunt from a Standing Vehicle.
- Those persons with a physicians certification for the following disabilities:
 - Loss of 1 or both legs or feet;
 - Inability to walk more than 200 feet without having to stop and rest;
 - Inability to walk without prolonged use of wheelchair, walker, crutches, braces or other devices to aide in mobility;
 - Lung disease from which the person's expiratory volume for 1 second is less than 1 liter when measured by spirometry;
 - Lung disease from which the person's arterial oxygen is less than 60 mm/hg of room air at rest;
 - Cardiovascular disease from which the person measures between 3 and 4 on the New York heart classification scale/
 - Cardiovascular disease from which a marked limitation of physical activity causes fatigue, palpitation, dyspnea or anginal pain;
 - Other disease or disorder including but not limited to severe arthritis or neurological-orthopedic impairment that creates a severe mobility limitation.
- Persons with *obvious* severe disabilities (i.e., paraplegics, quadriplegic).

Operation of the ORV is subject to licensing and all other requirements and restrictions, and shall only be at a speed and in a manner which does not degrade the environment. These privileges may extend to one companion of the disabled person serving as operator or passenger of the disabled person's ORV, if the ORV is designed for passenger use.”

The disabled operator must carry a physician certification (form PR 9137 available from the DNR Law Enforcement Division, the DNR website or a DNR Operation Service Center) of the disability on his/her person. The certificate lists the disability or disabilities and whether the condition is judged to be permanent or temporary by the physician.

ORV Trail, Route and Area System

Initial Inventory Criteria

The 1979 ORV Plan reported that the state forest system was being inventoried for potential ORV opportunity by modifying the State Forest Operations Inventory (OI) to include a more detailed inventory of roads and trails. Prior to this time, OI had primarily focused on timber, wildlife and general forest recreation. Ten percent of the state forest was and still is annually inventoried.

Initial Identification and Evaluation Criteria

State forest areas, roads and trails were initially identified and their suitability for ORV use assessed based on the following criteria as reported in the 1979 ORV plan:

Unsuitable for any ORV activity: (e.g. closed to all ORV use)

(a) Dedicated wilderness, quiet or natural areas

- (b) Areas where plant communities are vulnerable to ORV use
- (c) Areas of critical wildlife habitat, particularly to endangered or threatened species
- (d) Areas of critical soils and slope where severe erosion and sedimentation are likely to occur (e.g. areas adjacent to or in surface waters or wetlands, on steep slopes, etc.)
- (e) Areas of geological, historical or archeological importance
- (f) Areas of use/user conflict
- (g) Areas of outstanding natural or aesthetic features

Suitable for unrestricted ORV activity: (e.g. scramble area)

- (a) Areas presently heavily used for motorsports
- (b) Areas along the existing Michigan Cross Country Cycle Trail
- (c) Areas suitable should have a size of 500 – 3,000 acres
- (d) Areas with rolling terrain are acceptable where sedimentation would not be a problem
- (e) Areas that are forested that can restrict speed and reduce noise

Possibly suitable for designated ORV trail or route:

- (a) All other state forest lands not defined by the conditions above

It was anticipated that most ORV trails and routes would be developed on the lands in this category.

Initial Designation

Using the above criteria for inventory, identification and evaluation, the DNR over the period 1979-1991 evaluated the state forest system for ORV use potential, within the constraints of:

- (a) Protect natural resources and ecosystems
- (b) Separate conflicting uses
- (c) Promote user safety
- (d) Within the (a-c) constraints, provide optimum opportunity for recreation on state-owned lands by ORV users

In 1990 the DNR designated 1,500 miles of ORV trails (50" wide or less for motorcycles and in some cases ATVs) on state forest land to allow implementation of administrative rules limiting ORV use to the designated system and state forest roads on state-owned land. The Michigan NRC expanded on this designation in May 1991 when they designated 2,721 miles of trails and routes and 1,819 acres of designated ORV use area. No specific trail-by-trail inventory was available of that designation. However, in February 1994, the DNR did conduct an inventory of Michigan's public ORV facilities (Table 5).

Table 5. Michigan public ORV facility inventory, 1994.

Region/Manager	Trail miles (a)	Route miles (b)	Area acres	Road miles
UP State Forests	511	207	0	2,376
UP National Forests	0	0	0	7,000
UP Total	511	207	0	9,376
NLP State Forests	1,021	355	1,315	0
NLP State Parks	0	0	450	0
NLP National Forests	488	0	15	0
NLP Total	1,509	355	1,819	0
SLP Genesee County Park	0	0	379	0
SLP Total	0	0	379	0
State Total (c)	2,020	562	2,198	9,376

- (a) Designated trails are two-way single track paths or ways capable of travel by a vehicle 50" in width or less. May be maintained to motorcycle trail specifications which are 24" at ground level, 40" at handlebar height, brushed 8' above ground level or to ATV trail specifications which are 50" at ground and handlebar height and brushed 8' above the ground.
- (b) Designated routes are two-way forest roads having a minimum width of 72".
- (c) In addition, it was noted that the Michigan Cross Country Cycle Trail was 739 miles, but that much of it was composed of sections of forest and county roads that require road (Secretary of State) licensing. It was also noted that the majority of the trail system is maintained to motorcycle specifications.

This trail mileage encompassed a total of 56 designated trails on state forest land and 7 designated trails on national forest land. The number of routes were not provided, but they were designed not be a loop or long distance point-to-point routes, but rather to be a connectors between ORV trail loops using selected sections of state forest roads in the NLP where needed and suitable.

1996 Inventory, Evaluation and Resource Management Plan for the Designated System

In 1996 the DNR contracted to have another inventory conducted of the designated ORV system that included evaluation of trail/resource conditions, user conflicts and illegal activities. The inventory was focused on the state forest portion of the designated trail system and the results were published in 1997 (Lynch and Nelson 1997).

The inventory focused solely on the designated system of trails and routes and did not include designated scramble areas or forest roads in the Upper Peninsula. It found that there were 71 trails/routes with 2,531 miles in the designated system, excluding some segments of the Michigan Cross Country Cycle Trail (Table 6).

Table 6. Michigan public ORV facility inventory, 1997 (Lynch and Nelson 1997).

Region/Manager	Trail miles (a)	Route miles (b)	Area acres
UP State Forests	578	157	0
UP National Forests	0	0	0
UP Total	578	157	0
NLP State Forests	1,086	362	1,315
NLP State Parks	0	0	450
NLP National Forests	348	0	15
NLP Total	1,434	362	1,819
SLP Genesee County Park	0	0	379
SLP Total	0	0	379
State Total (c)	2,012	519	2,198

- (a) Designated trails are two-way single track paths or ways capable of travel by a vehicle 50" in width or less. May be maintained to motorcycle trail specifications which are 24" at ground level, 40" at handlebar height, brushed 8' above ground level or to ATV trail specifications which are 50" at ground and handlebar height and brushed 8' above the ground.
- (b) Designated routes are two-way forest roads having a minimum width of 72".
- (c) In addition, it was noted that the Michigan Cross Country Cycle Trail was 739 miles, but that much of it was composed of forest and county roads that require road (Secretary of State) licensing. It was also noted that the majority of the trail system off county and forest roads was maintained to motorcycle specifications.

The trails/routes on state forest land were evaluated for trail/resource conditions, user conflicts and illegal activities. The findings for the state forest portion of the system are shown in Table 7.

Table 7. Mileage, rated condition and illegal uses and conflicts on the DNR state forest designated trail/route system, fall 1996 (Lynch and Nelson 1997) (a)

Region/ Type	No. trails /routes	No. (%) miles in good condition (b)	No. (%) miles in fair condition (b)	No. (%) miles in poor condition (b)	Total no. trail/route (%) miles	No. (%) trails/ routes with illegal use	No. (%) trails/ routes with conflicts
UP	13	241 (53%)	116 (26%)	96 (21%)	453 (100%)	4 (31%)	0 (0%)

Cycle							
UP ATV	5	12 (10%)	34 (27%)	80 (63%)	126 (100%)	0 (0%)	0 (0%)
UP Route	5	137 (87%)	20 (13%)	0 (0%)	157 (100%)	3 (60%)	0 (0%)
UP Total	23	390 (53%)	170 (23%)	176 (24%)	736 (100%)	7 (30%)	0 (0%)
LP Cycle	9	209 (61%)	82 (24%)	53 (15%)	344 (100%)	9 (100%)	0 (0%)
LP ATV	21	516 (70%)	213 (29%)	13 (1%)	742 (100%)	7 (33%)	3 (14%)
LP Route	12	162 (59%)	98 (36%)	16 (5%)	276 (100%)	4 (33%)	0 (0%)
LP Total	42	887 (65%)	393 (29%)	82 (6%)	1,362 (100%)	20 (48%)	3 (7%)
System Total	65	1,277 (61%)	563 (27%)	258 (12%)	2,098 (100%)	27 (42%)	3 (5%)

- (a) Does not include Michigan Cross Country Cycle Trail or designated cycle or ATV trail on national forest land.
- (b) Condition: good > 95% mileage meets maintenance; fair = 75%-95% mileage meets maintenance standards; poor < 75% mileage meets maintenance standards.

In total, the majority of the system mileage was in good condition. However, 39% needed specific improvement to reach good trail maintenance standards. Illegal uses were relatively common, with almost half the trails and routes reporting such concerns. Conflicts were uncommon with only one in twenty facilities having noted conflicts.

2004 Inventory and Evaluation

As part of this planning process, during summer and fall 2004, DNR FMFM personnel inventoried, evaluated and provided trail-by-trail resource management plans using an instrument and methodology very similar to that developed in 1996. The assessment instrument is found in Appendix A. The FMFM trail analysts were critical to this effort as was the support of FMFM field leadership. In addition, trail managers in the Huron-Manistee National Forests inventoried and evaluated the portions of the designated system on national forest lands in the Lower Peninsula. This inventory, evaluation and the accompanying set of resource management plans is somewhat more inclusive than the 1996 inventory, as it includes all designated Forest Service motorcycle and ATV trails in the Lower Peninsula and three parts of the Michigan Cross Country Cycle on US Forest Service lands. The system has also grown slightly since 1996 and those additional trails/routes are included. The goal of this process was to clearly identify the designated trail/route system and its key infrastructure, evaluate the condition of the system and clearly state resource management plans designed to bring the entire trail system up to “good” condition. Good condition is defined as a trail or route meeting maintenance standards on more than 95% of its mileage. Those standards are fully defined in IC 1990 “DNR ORV Trail Improvement Fund Procedures Manual”, IC 1991 “DNR ORV Trail and Route Maintenance Handbook” and IC 3600 “DNR ORV Trail Maintenance Grant Application Information”.

The inventory included 82 designated trails and routes covering 2,705 miles. It does not include portions of the Michigan Cross Country Cycle Trail connectors managed by the DNR. Table 8 specifically focuses on the length of trail mileage, the number of designated trailheads, the condition of the trail/route and key trail infrastructure features that directly affect rider safety and trail maintenance costs.

Table 8. Designated ORV system mileage, condition and infrastructure by trail/route.

Trail /Route	Mile -age	Desig -nated Trail-heads	Condition (a)	Culverts	Bridges	Boardwalks	Road and Pathway Cross-ings
UP Cycle							
Bass Lake	26	1	Good	3	0	3	22
Birch Hill	9	1	Good	0	0	0	8
Brevort – Trout Lake	63	1	Fair	12	5	0	53
Foreman Lake	13	1	Good	0	0	0	9
Kinross	30	1	Good	0	0	1	78
Newberry-Rexton	54	1	Fair	9	0	1	77
Porterfield Lake	22	1	Good	3	0	4	12
Sandtown	36	1	Good	0	0	0	38
Silver Cr.	34	1	Fair	3	2	3	30
UP Cycle Trails	287	9	6 (Good) 3 (Fair)	30	7	12	327
UP ATV							
Baraga Pl.	28	1	Good	2	0	0	37
Bay City L	9	1	Good	0	0	0	12
Cranberry Lake	8	1	Good	7	2	0	0
Danaher P	29	1	Good	1	1	0	17
Drummond Island	60	2	Good	2	1	0	10
Forest Islands	33	2	Good	3	5	2000' boardwalk	10
Norway	25	0	Fair	4	5	12	4
Pine Ridge	49	1	Fair	0	0	0	59
Two Heart	36	1	Fair	0	2	1	42
UP ATV Trails	277	11	6 (Good) 3 (Fair)	19	16	13 + 2000'	191
UP Route							
B. Nicholls	41	0	Good	162	4	0	26

Trail /Route	Mile -age	Desig -nated Trail-heads	Condition (a)	Culverts	Bridges	Boardwalks	Road and Pathway Cross-ings
Iron R. - Marinesco	67	2	Good	127	33	0	31
Hancock – Calumet	14	2	Good	35	4	0	27
Felch Gr.	38	0	Good	3	10	0	8
Champion – Republic	9	1	Good	3	10	0	7
UP Routes	169	5	5 (Good)	330	61	0	99
UP TOTALS	733	24	17 (G),6 (F)	379	84	25 +2000'	617
LP Cycle							
Big O	96	2	Good	4	5	0	81
Bummers	21	0	Fair	0	0	0	13
Evert	23	1	Good	0	3	0	5
Grand Tr.	66	2	Good	0	0	5	35
Holton	32	1	Good	0	0	0	37
Horseshoe	27	1	Good	1	1	0	33
L Manistee	46	2	Good	2	4	0	30
Long Lake	27	1	Good	0	0	0	15
MCCCT Cadillac	46	1	Fair	3	0	0	20
MCCCT Meadows	25	1	Fair	0	1	0	32
Missaukee Junction	18	1	Good	0	0	0	7
Red Bridge	28	0	Fair	0	0	0	13
Tin Cup	22	1	Good	0	0	0	10
Tomahawk	102	2	Good	0	0	0	85
LP Cycle Trails	579	16	10 (Good) 4 (Fair)	10	14	5	416
LP ATV (b)							
Ambrose	9	1	Good	0	0	0	6
Atlanta	82	1	Fair	0	1	0	97
Big Bear	20	0	Good	0	0	0	21
Black L.	38	1	Fair	0	0	0	66
Bull Gap	96	8	Fair	2	2	0	66
Cedar Cr.	24	1	Good	0	2	0	18
Crapo Cr.	18	0	Good	0	0	0	16

Trail /Route	Mile -age	Desig- nated Trail-heads	Condition (a)	Culverts	Bridges	Boardwalks	Road and Pathway Cross- ings
Denton Cr.	43	1	Good	0	0	10	90
Frederic	29	1	Good	0	0	0	19
Geels	50	1	Good	0	0	0	55
Gladwin-N (b)	38	NA	Poor	NA	NA	NA	NA
Gladwin- S	14	1	Fair	0	0	0	8
Hunt Cr.	33	0	Fair	0	0	0	38
Huron	46	4	Fair	3	1	0	45
Kalkaska	90	2	Good	0	2	0	28
Leetsville	25	1	Good	0	0	0	18
Leota	55	1	Good	0	2	0	35
Lincoln H.	21	0	Good	0	0	0	12
Little O	41	2	Good	0	0	0	50
M 20	15	1	Good	0	1	0	27
Meadows	105	3	Fair	2	2	0	41
Mio	25	2	Fair	0	0	0	20
N. Missaukee	73	2	Good	0	6	2	22
Ogemaw Hills	11	0	Good	0	0	0	23
Old State House	17	1	Good	0	0	0	20
Rose City	15	0	Good	0	0	0	18
St. Helen	30	1	Good	0	0	0	50
W. Higgins	39	1	Good	0	0	0	65
LP ATV Trails	1104	37	19 (Good) 8 (Fair) 1(Poor)	7	19	12	974
LP Routes							
Black L.	15	0	Fair	0	0	0	14
Brush Cr.	35	1	Good	0	1	0	43
Denton	11	1	Good	0	0	0	60
Devil's L.	10	1	Good	0	0	0	1
Elk	15	1	Good	0	0	0	30
Frederic	10	1	Good	0	0	0	17
Lincoln H.	21	0	Good	0	0	0	12
Little Manistee	46	2	Good	2	4	0	30
Mio	14	1	Good	0	0	0	15
N. Branch	26	2	Good	0	0	0	30
Ogemaw	5	0	Good	0	0	0	7

Trail /Route	Mile -age	Desig -nated Trail-heads	Condition (a)	Culverts	Bridges	Boardwalks	Road and Pathway Cross-ings
Hills							
Old State House	12	1	Good	0	0	0	14
Red Bridge	7	0	Fair	0	0	0	13
St. Helen	19	0	Good	0	0	0	20
Tin Cup	20	1	Good	0	0	0	10
Tomahawk Creek	15	1	Good	0	0	0	22
Tomahawk	8	0	Poor	0	0	0	2
LP Routes	289	13	14 (Good) 2 (Fair) 1 (Poor)	2	5	0	340
LP TOTAL	1972	66	43 (Good) 14 (Fair) 2 (Poor)	19	38	17	1730
SYSTEM TOTAL	2705	90	60 (Good) 20 (Fair) 2 (Poor)	349	122	42 + 2000'	2347

- (a) Condition: good > 95% mileage meets maintenance; fair = 75%-95% mileage meets maintenance standards; poor < 75% mileage meets maintenance standards.
- (b) Gladwin North ATV trail is closed due to poor condition and no evaluation was made of culverts, bridges, boardwalks or crossings as extensive changes due to re-routes, new boardwalk, etc. are being examined in current engineering feasibility studies.

It is clear from the inventory that the trail system has matured from the situation documented in 1996. Field personnel report the trail system has 90 designated trailheads, creating a considerable infrastructure maintenance responsibility. In addition, 21 of the 81 trails/routes (26%) need to be upgraded to reach good condition. In terms of on-trail infrastructure beyond trailheads, 349 culverts, 122 bridges, thousands of feet of boardwalk and 2,347 road and pathway crossings require additional regular inspection, maintenance and signage. As is also clearly demonstrated above, this infrastructure maintenance burden is not evenly distributed among trails. For example, Forest Islands, an ATV trail in the Upper Peninsula, was rated in poor condition in the 1996 inventory and evaluation. Resource management plans were implemented that called for an extensive boardwalk system to protect erodible soils and surface waters in this wet site. Today, there is a boardwalk system with an estimated 2,000 feet (1/3 of a mile) on this one 33-mile trail. Another example is the six UP ORV routes, which have 94% of the

reported culverts and 50% of the reported bridges, yet provide only 6% of the state's designated trail/route mileage (excluding the MCCCT).

Comparing the condition of the system in 2004 to 1996, it is apparent that FMFM and Forest Service personnel assess the system in overall better condition, although there may be individual trails/routes in 2004 that are in worse condition than 1996 (Table 8).

Table 8. Rated condition of designated ORV system by type and region in Fall 2004 and comparison to system rating in fall 1996 (Lynch and Nelson 1997).

Region/Trail Type	Number Trails/Routes	Mileage (%) Good	Mileage (%) Fair	Mileage (%) Poor (f)	Total Mileage
UP Cycle	9 (a)	136(47%)	151(53%)	0(0%)	287 (100%)
UP ATV	9 (b)	167 (60%)	110 (40%)	0 (0%)	277 (100%)
UP Route	5	169 (100%)	0 (0%)	0 (0%)	169 (100%)
Total UP	23	472 (64%)	261 (36%)	0 (0%)	733 (100%)
LP Cycle	14 (c)	459 (79%)	120 (21%)	0 (0%)	579 (100%)
LP ATV	28 (d)	625 (57%)	441 (40%)	38 (3%)	1104 (100%)
LP Route	17 (e)	259 (90%)	22 (7%)	8(3%)	289 (100%)
Total LP	59	1343(68%)	583(30%)	46(2%)	1972(100%)
Total State Fall 2004	82	1815 (67%)	844(31%)	46(2%)	2705 (100%)
Total State Fall 1996	65	1277 (61%)	563 (27%)	258 (12%)	2102 (100%)

- (a) Fair: Brevort-Trout Lake Cycle Trail, Newberry-Rexton Cycle Trail, Sliver Creek Cycle Trail.
- (b) Fair: Norway ATV Trail, Pine Ridge ATV Trail, Two Hearted ATV Trail.
- (c) Fair: Bummer's Roost Cycle Trail, MCCCT Cadillac (FS), Meadows MCCCT (FS), Red Bridge Cycle Trail.
- (d) Fair: Atlanta ATV Trail, Black Lake ATV Trail, Bull Gap ATV Trail, Gladwin South ATV Trail, Hunt Creek ATV Trail, Huron ATV Trail, Meadows ATV Trail, Mio ATV Trail. Poor: Gladwin ATV Trail N.
- (e) Fair: Black Lake Route, Red Bridge Route. Poor: Tomahawk Route.

The most visible change in the system is that only two trails/routes comprising less than 2% of the system (46 miles) were rated in poor condition in 2004 compared to 258 miles of trail/route (12%) in 1996. While the proportion in fair condition was slightly higher in 2004 than in 1996, by the nature of a fair rating, these trails/routes are easier to bring to good condition as less mileage needs to be upgraded. Considering trails/routes that need to be upgraded, a higher percentage of mileage in the Upper Peninsula is rated as fair than in the Lower Peninsula. This is particularly true of motorcycle trails in the UP where more than half the mileage is rated fair. In the Lower Peninsula, ATV trails have the highest percentage of miles with a rating below good.

Resource Management Plans for Trails/Routes Rated Fair or Poor

Table 9 provides specific resource management plans for each trail/route rated fair or poor to bring each up to good specifications.

Table 9. Problems to be rectified to bring system components rated fair or poor into compliance (good rating) by trail/route, 2004.

Trail /Route	Management Unit(s)	Recommended Action(s)
<i>UP</i>		
Brevort-Trout Lake Cycle Trail	Soo	Some areas need to be brushed to meet specifications.
Newberry-Rexton Cycle Trail	Newberry, Soo	Some areas need to be brushed to meet specifications
Silver Cr. Cycle Trail	Newberry	Poor job of brushing, some areas need to be brushed to meet specifications.
Norway ATV Trail	Crystal Falls	Numerous wet areas need reroutes or boardwalks. ORV users are doing reroutes by bypassing these areas, but a permanent reroute or boardwalk needs to be done in most cases. A portion of the trail that lies west of Norway Truck Trail (runs N/S) should be closed. Major damage is occurring in some areas and no options for reroutes in most locations. Predominantly rock and swamp. Possibilities do exist to use other two tracks and a portion of forest road to eliminate this poor trail mileage and replace it with comparable mileage of usable trail.
Pine Ridge ATV Trail	Newberry	Poor job of brushing, some areas need to be brushed to meet specifications.
Two Heart ATV Trail	Newberry	Some areas need to be brushed to meet specifications
<i>LP</i>		
Bummers Roost Cycle Tr.	Atlanta	Poor signage. Needs more and appropriate confidence markers and stops. Needs better brushing, especially in front of signs.
MCCCT Cadillac	Cadillac Ranger District - FS	Need to restore some erosion along road crossings and sandy areas. A wet area north of Boon Rd. needs to be improved. Plans being made to make this improvement as part of a timber sale.
Meadows MCCCT	Mio Ranger District -FS	Need for erosion control and additional brushing.
Red Bridge Cycle Tr.	Gaylord	Signage is poor. Need more confidence markers, directional arrows, begin and end signs and stops.
Atlanta	Atlanta	Needs additional brushing. Reroutes need to be put back

Trail /Route	Management Unit(s)	Recommended Action(s)
ATV Tr.		on original treadway. Grading is also needed.
Black Lake ATV Tr.	Atlanta	Poor signage. Needs more and appropriate confidence markers, directional arrows and stops.
Bull Gap ATV Tr.	Mio Ranger District - FS	User trails around wet spots, poor signing, erosion problems at some hill climbs and wet areas.
Gladwin-N ATV Tr.	Gladwin	Trail closed for major renovation. Key challenges included wet sites, braided trail and whooped out trail. Renovations in progress include rerouting, boardwalks, bridges, culverts and grading. Currently in engineering phase.
Gladwin -S ATV Tr.	Gladwin	Trail is braided everywhere. Trail is very whooped out.
Hunt Cr. ATV Tr.	Atlanta, Grayling	Needs additional brushing and improved signage.
Huron ATV Tr.	Tawas Ranger District - FS	Several wet spots need to be hardened. Because of wide trail width, some motor vehicle traffic and sign vandalism where people feel the need to drive trucks/SUVs. Trail needs more frequent grading (now being planned) by FS. Illegal scramble area has been created on Consumers Energy land under powerlines across from Old Orchard Park.
Meadows ATV Tr. FS	Mio Ranger District - FS	User made trails, wet areas, poor signage and erosion.
Mio ATV Tr.	Grayling	Needs more brushing and better signage. Grading will need to continue as it is currently being done by CCC.
Black L. Route	Atlanta	Poor signage. Needs more and appropriate confidence markers, directional arrows and stops.
Red Bridge Route	Gaylord	Signage is poor. Needs more confidence markers, directional arrows and begin and end signs.
Tomahawk Route	Gaylord	Two segments connecting Tomahawk Creek Cycle trail are fine. However, recommend decommissioning loop in Sections 14, 15, 22 and 23 of T33N, R4W due to terrain, access, safety hazards and neglect.

Better brushing and signage are the two most common management steps need to bring the trails/routes to good condition. In a number of instances however, additional steps are required including re-routes and/or boardwalks to protect against soil erosion or compaction in wet or steep areas. There are also challenges with user made trails (illegal volunteer trails that braid the existing single treadway system). These may require re-routes or boardwalks if the braiding is the result of wet or unsafe trail conditions, or some form of appropriate barrier and signage if riders are taking short-cuts that bypass safe and appropriate trail mileage. Improved signage recommended typically focuses on

confidence markers, directional arrows and stop signs as specified in IC 1991 “DNR ORV Trail and Route Maintenance Handbook”.

Further resource management planning is needed to reduce illegal use and minimize user conflicts. Trail evaluators provided the following comments by trail concerning illegal use, conflicts and additional comments that often point toward management remedies (Table 10).

Table 10. Illegal use, conflicts and additional comments by evaluators by trail/route.

Trail/Route (a)	Illegal Use	Conflicts	Additional Evaluator Comments
UP Cycle Trail			
Bass Lake	Illegal spur trails	None	None
Birch Hill	None	None	None
Brevort – Trout Lake	Hill climb in an area previously attempted to be closed off with ORV grant project. Illegal spur trails created and used by hunters	None	None
Foreman Lake	None	None	None
Kinross	Illegal spur trails made by hunters	Aware of a conflict between motorcycle rider and equestrian.	None
Newberry-Rexton	Illegal spur trails created by hunters	None	None
Porterfield Lake	Illegal spur trails	None	None
Sandtown	Illegal hill climb in Section 2. Illegal spur trails created and used by hunters.	None	None
Silver Creek	Illegal spur trails created and used to access hunting and fishing opportunities	None	None
UP ATV Trails			
Baraga Plains	Illegal spur trails for hunting access	None	None
Bay City Lake	ORVs (trucks and ATVs) riding around lake shoreline at low	None	None

Trail/Route (a)	Illegal Use	Conflicts	Additional Evaluator Comments
	water levels. Illegal spur trails.		
Cranberry Lake	None	None	None
Danaher Plains	Illegal spur trails for hunting and fishing access.	None	None
Drummond Island	Illegal spur trails for hunting access.	None	Challenges with water as the islands bedrock is very near the surface and we have perched water table on rock or clay substrate.
Forest Islands	Illegal spur trails. Jeeps riding and destroying boardwalks created for ATV use. Some snowmobile use also starting to occur on boardwalks.	None	None
Norway	Illegal spur trails. Bypasses around wet areas getting wider and wider.	None	Southern Dickinson County near trail consists of numerous rocky outcrops mixed with swampy areas. More portions of this trail need to be placed on existing two tracks and forest roads. This will enhance safety and reduce erosion. Trail mileage can be maintained.
Pine Ridge	ATV use is increasing and there are reports of illegal use down the Lake Superior shoreline. Illegal spur trails.	None	None
Two Heart	Illegal spur trails and hill climbs. Illegal riding on Lake Superior shoreline.	None	None

Trail/Route (a)	Illegal Use	Conflicts	Additional Evaluator Comments
UP ORV Routes			
Bill Nicholls	Illegal spur trails to residences and to access streams.	Use permits are issued for loggers to use this grade as a summer haul road. Has not been a major conflict.	The grade extends north to Canal Rd. This part of the grade was not designated because of the Old Mill Rd. crossing slope problems. We should reevaluate this decision. It would be feasible if the trail surface was upgraded to protect from erosion on the slope and would expand route mileage.
Iron River - Marinesco	Illegal spur trails to residences.	Some residents concerned about dust, noise from ATV traffic.	Trail needs annual maintenance – spot gravel and grading. There is a three mile segment where DNR does not own the grade. The current reroute uses a county road – Old US2- as the trail. USFS owns the connector to the West. The Gogebic County Road Commission owns most of the Old US2 ROW. The problem is on the east end and DNR/FS should address this jointly.
Hancock to Calumet	Some spur trails in Hancock and Calumet.	Major conflict on this trail is due to noise and dust in the cities and villages. There are regular complaints and most are about dust. Many young ATV users waiting to “graduate” to cars for	This trail needs annual maintenance by spot gravel and grading. Some form of hard surfacing in town areas would help control dust.

Trail/Route (a)	Illegal Use	Conflicts	Additional Evaluator Comments
		transportation between towns.	
Felch Grade	Spur trails to residences	Illegal grade crossings (driveways) with no land easement. Trespass issues on the east end of the grade onto adjacent private lands. The grade is being used as a dump area for household appliances and trees.	None
Champion - Republic	Illegal spur trails	None	None
LP Cycle Trails			
Big O	Biggest problem is unlicensed ORVs on this system. Illegal spur trails and hill climbs.	Legal vs. illegal use of county and forest roads and trespass on private lands.	Highest priority of FS is to inventory all opportunities to move trail from public roadways to single track motor cycle trail.
Bummers Roost	None	None	Need a connector trail/route developed to connect to Red Bridge Cycle Trail to the west (8 miles). Need better delineation between this cycle trail and Black Lake ORV trail to the north.
Evert	None	None	There is an official cycle scramble area here, but it is unmarked and unmapped and both need to happen.
Grand Traverse	None	None	None
Holton	Illegal road riding by non SOS licensed vehicles.	ATVs in conflict with motorcyclists on this motorcycle trail.	None

Trail/Route (a)	Illegal Use	Conflicts	Additional Evaluator Comments
Horseshoe	Illegal road riding by non-SOS licensed vehicles.	ATVs riding on a motorcycle trail.	None
Little Manistee	None	None	None
Long Lake	None	None	None
MCCCT Cadillac	Hill climbs off trail along the Pine River, in the Briar Hills/Harrietta area, Yuma Hills, Meawataka area.	ATVs and horses on the MCCCT. Horses especially prevalent on spur by Caberfae Way parking lot.	None
Meadows MCCCT	None	None	None
Missaukee Junction	None	None	None
Red Bridge	Non-designated spur trails (e.g. to restaurant off Black R. Rd.). Either designate or remove. Large illegal scramble area needs to be effaced.	None	Trail appears underutilized. Perhaps use will increase with development of trailhead. Need connector trail/route to Bummings Roost Cycle Trail 8 miles East.
Tin Cup	None	None	Public has asked for ORV trail/route connection to Little Manistee Cycle Trail from Tin Cup Cycle Trail.
Tomahawk	None	A lot of ATV use on this trail maintained solely for motorcycles. Consider conversion of some mileage to ATV trail (50").	None
LP ATV Trail			
Ambrose Lake	None	None	None
Atlanta	Lots of illegal spur trails due to those taking short cuts and use of gas well related roads.	None	Need culvert and gravel at flooding ford in Section 8 of T32N, R3E. Bridge needs to be replaced at Brush Creek

Trail/Route (a)	Illegal Use	Conflicts	Additional Evaluator Comments
	Montmorency County has opened all county road shoulders which has led to illegal use of state forest land by ORVs.		in Section 11 of T31N, R3E and is currently in engineering stage. The farther north you go on the trail, the worse the maintenance (signing, brushing and treadway).
Big Bear	None	None	None
Black Lake	<u>Lots</u> of illegal scramble areas and spur trails. These need to be blocked and restored. Lots of illegal riding in and around Black Lake SF campground, including between upper and lower units.	Lots of user conflict stemming from both counties opening their road shoulders and the maze of designated ORV system, snowmobile trail and pathways in the area.	Consider DNR Directors Order to prohibit ORVs in Lower Black Lake SFC and one to prohibit camping in designated parking lots within the Black Mountain Recreation Area. Post scramble area boundaries and rules. Continue blocking illegal trails and post signs designating appropriate use groups.
Bull Gap	Numerous illegal hill climbs, trails and instances of road use. Have aggressively worked to correct and limit illegal use but use has dramatically increased in past decade. Hence, new problems continually arise.	Some conflict between ATVs and cycles. ATVs want wider, smoother trail, cycles more technically challenging. To separate have more heavily maintained (graded) north part of the system, favoring ATV while south part has been maintained to favor cycles.	On some years progress made by trail personnel is often overshadowed by new problems at other locations. In short, we often break even. The overall problem of managing a trail system of this size is money. We need more personnel to make contacts and issue violations, do rehab work and maintain adequate signage and trail conditions.
Cedar Creek	Numerous illegal spur trails, illegal road riding.	Area is habitat for Karner Blue butterfly – a federally endangered species. Conflicts with ORVs off trail on	None

Trail/Route (a)	Illegal Use	Conflicts	Additional Evaluator Comments
		open fields which are Karner Blue habitat.	
Crapo Creek	None	None	None
Denton Creek	None	None	None
Frederic	None	None	None
Geels	None	None	None
Gladwin South	Illegal spur trails numerous	None	ORV trails N of M61 currently closed. Official 21-acre scramble area needs official boundary, fencing and posts.
Gladwin North	NA (Trail closed)	NA (Trail closed)	NA (Trail closed)
Hunt Creek	Illegal use of non-designated forest trails and snowmobile trails by ATVs. Environmental damage to Avery Hills areas to the north due to illegal hill climbs, spur trails.	ATVs on roads to oil/gas facilities are in conflict with well operators. Conflicts with snowmobilers and hunters in season.	None
Huron	Many illegal hill climbs. Fencing put up to stop this has been moderately effective but still considerable illegal use.	None	Need to provide sign consistency for dual snowmobile/ORV use. Consistent size, wording/symbol for stop ahead and stop signs especially needed.
Kalkaska	None	None	None
Leetsville	None	None	None
Leota	None	None	A designated camping area would be a great asset. A special use area is available near the parking lot.
Lincoln Hills	None	None	Although Lincoln Hills does not have a designated trailhead, I don't believe one it needed. The trailhead on the Little Manistee is within 4-5 miles using

Trail/Route (a)	Illegal Use	Conflicts	Additional Evaluator Comments
			the ORV connector route.
Little O	Illegal spur trails and road riding.	Trespass on private property.	None
M20	Illegal road riding	ATVs conflict with cars/trucks on public roads during illegal road riding.	None
Meadows	None	None	None
Mio	Illegal road riding. New trailhead on Oak Lake Road should help. Illegal hill climbs in Sec. 23 T28N, R2E	None	None
N. Missaukee	None	None	None
Ogemaw Hills	None	None	None
Old State House	None	None	None
Rose City	None	None	None
St. Helens	None	None	None
W. Higgins	None	None	None
LP Routes			
Black Lake	Lots of illegal scramble areas and trails. Heighten visibility of official scramble area.	Lots of user conflict on Black Mtn. Recreation Area with maze of designated ORV, snowmobile and pathways, as well as forest and county roads.	None
Brush Creek	Lots of illegal spur trails. Montmorency County has opened up county road shoulders, which has led to illegal use of adjacent state forest lands.	None	Since this is also a snowmobile trail, most of the maintenance is done by the snowmobile grant sponsor, Canada Creek Ranch.
Denton	None	None	None
Devil's Lake	Illegal trails and shortcuts across loops	Only designated ORV facility in	Railroad crossing needs to be upgraded to public

Trail/Route (a)	Illegal Use	Conflicts	Additional Evaluator Comments
	need to be blocked. Access to lake needs to be controlled. Illegal ORV use in lakeside wetlands/shoreline. Lots of illegal dumping. Major illegal scramble area. Should either designate it as a legal scramble area or close and restore it.	Alpena County, where a sizeable population base exists that is interested in ORV use.	crossing criteria as per federal standards.
Elk	Lots of illegal spur trails. Montmorency County has opened up county road shoulders, which has led to illegal use of adjacent state forest lands.	None	None
Frederic	None	None	None
Lincoln Hills	None	None	None
Little Manistee	None	None	None
Mio	None	None	None
North Branch	Illegal road riding to reach Big Bear L. SFC. An ORV route connector to the campground would be beneficial to decrease illegal road riding. Lots of well roads that attract illegal use.	This is also a designated snowmobile trail and is well used by large 4 WD vehicles. Conflicts regarding signage, useage.	None
Ogemaw Hills	None	None	None
Old State House	Lots of illegal trash dumping along route.	Conflict regarding signage as this is also a designated snowmobile trail.	None
Red Bridge	Non-designated spur trails. Large illegal scramble area on route needs to be	None	None

Trail/Route (a)	Illegal Use	Conflicts	Additional Evaluator Comments
	addressed.		
St. Helens	None	None	None
Tin Cup	None	None	None
Tomahawk Creek	Lots of illegal spur trails. Montmorency County has opened up county road shoulders, which has led to illegal use of adjacent state forest lands.	None	None
Tomahawk	Illegal trails throughout area. Lack of trailhead encourages non-SOS vehicles on county roads and forest trails.	None. Low use.	Recommend decommissioning of the loop leaving the cut across the segments in Tomahawk C. Maybe replace the lost mileage in the form of more cut across trails in B and A loops. Could widen A, B or C to accommodate more traffic by cycles and ATVs.

(a) Gladwin North ATV Trail was not rated as it was already closed for major renovation at the time of the assessment. Key challenges included wet sites, whooped out trail. Renovations in progress include a significant amount of boardwalk, some rerouting and grading.

In total, 44 (54%) of designated ORV trails/routes currently open had reported illegal uses. This is up from 42% of the trails having reported illegal use in 1996 (Table 6). Illegal uses appear to differ by region. For example, in the UP, illegal uses are most likely to be spur trails being created off designated cycle and ATV trails to enhance access to hunting and fishing locations. In the Lower Peninsula there is a much greater variety of illegal activity including illegal spur trails leading to illegal hill climbs and scramble areas, riding in wetlands or on lake/river shorelines, riding roads near trails only open to Secretary of State licensed vehicles and cutting between campgrounds and other recreation/service facilities appears more common. This suggests that additional education to focus on unwitting violators and additional enforcement to target knowing violators should be provided. In addition, effective restoration of illegal hill climbs that both blocks access to such sites and restores their environmental integrity should be undertaken.

Managers reported conflicts on 20 (25%) of designated ORV trails/routes. This is a higher proportion than the 5% of trails/routes with reported user conflicts in 1996 (Table

6). Conflicts within the ORV community tended to be primarily between motorcyclists and ATV riders. There were conflicts with ORV riders and non-motorized users who walk, ride horses or use mountain bikes on designated motorcycle and ATV trails. There were also conflicts on ORV trails/routes that are also designated snowmobile trails. These were between ORV and snow machine users and those who groom snowmobile trails. These include situations of ORV use immediately prior to winter resulting in a less than smooth treadway surface and uses during periods of minimal snow in winter by ORV and snowmobile users. There were trespass issues in some locations where ORV users strayed from the designated trail and entered private lands.

Some conflicts seemed regional in nature. For example, in the UP there were some short-term conflicts on UP forest roads used for logging traffic that are also designated ORV routes. Also in the UP there were also conflicts where ORV riders use routes through communities as transportation from town to town. This appears to involve many under 16 who are waiting to “move up” to a car or truck but cannot obtain a driver’s license. The key concern is that it involves considerable noise and dust in populated areas and much of this riding also appears to lack of direct adult supervision (a violation). In the Lower Peninsula, there were conflicts in northeastern Lower Michigan with the oil and gas industry. ORV riders illegally rode on oil and gas service roads and had unplanned interactions with oil and gas service vehicles, often large trucks. Also, the Black Mountain area, with its array of motorized trail and non-motorized pathway opportunities along with designated state forest campgrounds, there is reported conflict among trail users and between ORV oriented campers and non-ORV campers. Specific suggestions to reduce or eliminate these conflicts are provided by the evaluators in Table 10.

Finally, on 20 (25%) of trails, evaluators made additional substantive comments about challenges faced and improvements needed. Some key themes in the UP were to better use alternate routes in areas with water and rocky outcrops and to consider ways to hard surface portions of routes running through villages/towns where dust is a serious problem. In the Lower Peninsula, suggestions included better signing on the ground of existing designated scramble areas, connectors between cycle and ATV trail loops that would lengthen riding opportunities and provide access to goods and services, specific infrastructure repairs/improvements, clearer signage about where snowmobile and/or ORV use is appropriate and different approaches to managing camping on or near selected ORV trails and routes.

Trends in Michigan ORV Use and Users

This section provides information about ORV use and users from ORV registration and license data and three statewide Michigan ORV studies published in 1977, 1989 and 2000. Copies of these major reports (Alexander and Jamsen 1977; Nelson 1989; Nelson et al. 2000) can be found in the appendices of this plan. Key trends across the 24-year (1976-1999) span encompassed by the three studies are summarized in Nelson and Lynch (2001). All three studies used mail questionnaires sent to a representative sample of ORV registrants (1977 and 1989) or ORV licensees (2000) to elicit information.

ORV Registration and Licensing

ORVs were registered in Michigan with the Secretary of State from 1975-1991. This was phased out from 1991-94 and fully replaced by ORV licensing with the DNR which began in 1991 and was fully in place in 1994 and continues to the present. The Michigan Secretary of State maintains ORV registration records from 1976 – 1994 and the Michigan DNR maintains ORV license records from 1991 – present.

The trend in registrations/licenses is steadily upward over the past 30 years (Table 11). While there are declines in some individual years (often coinciding with poor economic conditions such as FY 1982-83) the trend is clearly upward. It is not unreasonable to assume 200,000 registered ORVs in 2004-05 by the conclusion of the license year.

Table 11. Michigan ORV registrations (1975-1991) and licenses (1992-2004).

Year	Number Registered (a) (b)	Year	Number Registered/ Licensed (a) (b)
1975-76	16,003	1990-91	105,555
1976-77	25,774	1991-92	NA
1977-78	67,779	1992-93	NA
1978-79	30,238	1993-94	NA
1979-80	76,322	1994-95	78,060
1980-81	90,457	1995-96	97,931
1981-82	40,325	1996-97	81,918
1982-83	52,095	1997-98	110,488
1983-84	111,363	1998-99	123,471
1984-85	81,283	1999-00	124,749
1985-86	139,411	2000-01	146,259
1986-87	184,715	2001-02	150,137
1987-88	146,266	2002-03	142,042
1988-89	175,538	2003-04	174,651
1989-90	179,834	2004-05	180,673 (c)

- (a) Registration data from the Michigan Secretary of State (1975-76 – 1990-91); No data available 1991-92 – 1993-94; DNR licensing data from the DNR Office of Contracts, Grants and Customer Service (1994-95 – 2004-05)
- (b) Secretary of State changed method of reporting registrations in 1986-87. Prior to that time only 3 year registrations transacted within the license year were reported. For 1986-87 and beyond, all registrations in force were reported.
- (c) Incomplete data as license year was not completed when plan was drafted

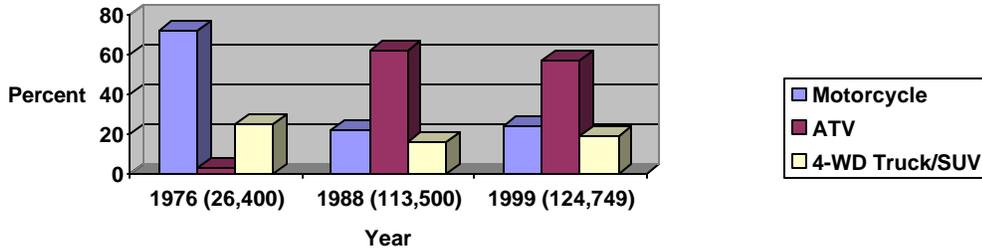
Statewide ORV Use and User Studies

Three statewide ORV use and user studies have been conducted in Michigan: Alexander and Jansen (1977); Nelson (1989) and Nelson et al. (2000). Each involved a mail survey that was used to sample more than 1,500 riders.

The three studies show some key trends/changes in ORV use and users, yet they also illustrate some on-going challenges that have changed little since the first study was

published in 1977. ORV distribution across time by machine type has shifted from primarily motorcycles to primarily ATVs (Figure 1).

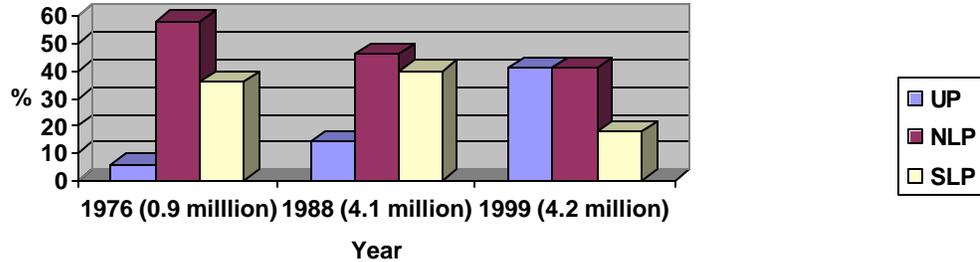
Figure 1. Proportion (number) of Michigan ORV registrations/licenses



Geographically, ORV use in Michigan has shifted northward over the past 25 years. The key factors involved include development of the designated ORV system in the northern 2/3 of Michigan, less restrictive ORV use rules on UP state and national forests, law enforcement to limit illegal ORV use in southern Michigan and the increasing use of ATVs (the most common ORV in 1988 and 2000) for non-trail related recreation (hunting, ice fishing) and work/land management activities on large blocks of private lands mostly found in the northern 2/3 of Michigan (Figure 2).

From 1976-1999, annual ORV use days (an ORV use day is the use of one ORV for any

Figure 2. Proportion (number) ORV Uses by Region 1976-1999



portion of a day) have risen from approximately 900,000 to 4.2 million. Based on the 1989 and 2000 studies, the proportion of total ORV use on the designated system has increased from 21% to 27%. Of all estimated ORV use in 1999, 44% was on private lands for purposes other than hunting and fishing (e.g. land management, trail riding, etc.), 25% was solely for hunting or fishing purposes on public and private lands and 31% was for trail riding purposes on public land, some not on the designated system (e.g. Upper Peninsula state or national forest roads).

When ORV users were asked an open-ended question in the 1989 and 2000 studies about the one most important thing to change in the ORV program, in both studies “providing more places to ride” was the most frequent suggestion. Of the other five most commonly suggested improvements, allowing the use of road shoulders, improving trail maintenance and improving trail signage were noted in both years. In 1989, two other concerns rounded out the top five suggestions: better information about riding opportunities and

more designated riding opportunities in southern Michigan. In 2000, these two were replaced in the top five by reduce ORV license fees for those only using ORVs for hunting/fishing and who do not use the designated system and increase ORV law enforcement. With provision of ORV information on the DNR website including the availability of maps there and the shift in ORV use northward, the study authors suggest that the need for better information may have been at least partially met and riders are increasingly used to using the designated system and other opportunities in northern Michigan. New concerns about reduced fees for those solely supporting hunting and fishing (in particular deer hunting and ice fishing) with ORV use may be linked to the quarter of all ORV use for this purpose. Further, requests for increased ORV enforcement may be linked to concerns about environmental damage from illegal ORV use and illegal riders giving legal ones a bad reputation. As always, there is a desire to have more places to ride.

Statewide Economic Impacts

The economic impact of ORV use in Michigan was also studied in Nelson et al. 2000. The average licensee spent \$1,944 from July 1998-June 1999 to support ORV use on items not related to ORV oriented trips. This included ORVs and trailers (equipment), insurance and storage. Equipment accounted for 80% of these expenditures. In total this non-trip spending was estimated to amount to \$134 million annually. Considering that the number of ORVs has since almost doubled, it is reasonable to assume this non-trip spending has risen in a similar manner. However, because most ORVs (other than some full-size vehicles) are manufactured outside of Michigan, the economic benefit of much of this equipment spending to the state is limited to dealer markups on vehicles.

Concerning ORV trips of 100 or more miles from home or those involving an overnight stay **and** where the primary purpose was ORV riding (not hunting, fishing, working around one's property, etc.), it was estimated that licensees and their friends and family took 152,000 such trips during July 1998-June 1999. Those trips generated \$40 million in spending in the local area where riding took place and en route to and from riding area. The spending does not include spending at home in preparation for the trip and thus is conservative in its estimate of economic impact.

Coupled with the \$134 million in equipment spending, this was estimated to have supported 822 Michigan jobs, provided \$16.4 million of income to Michigan workers, generated \$ 2.4 million in state sales taxes (at the former 4% level) and generated \$336,000 in state income taxes. This provides a substantial economic benefit to economies in northern Michigan. In particular, many businesses that support outdoor recreationists such as private campgrounds, motels, convenience stores, restaurants, parts and repair facilities, etc. are locally owned, providing substantial local economic benefit to small towns and rural areas.

Recent Surveys of Michigan Local Government Entities

County Sheriffs

All 83 Michigan county sheriffs received a mail survey in 2004 asking about their willingness to participate in ORV safety education on a basis similar to marine safety education. A copy of survey instrument is found in Appendix A. In 2004, 80 of 83 counties were involved in marine safety enforcement with the vast majority providing safety education using a classroom model with a standardized, mandatory and proctored classroom test. A total of 60 (72%) responded. Of those, 63% said they were interested in participating in such an ORV safety education program, 4% responded maybe, 25% were not interested and 7% didn't respond to the question.

Of the 60 counties that responded, 16 participated in the 2003 ORV Law Enforcement Grant program. This is 76% of the counties 21 counties that participated in the ORV Law Enforcement Grant Program in 2003. Those responding and participating reported they spent an average of 77% of ORV patrol time on the designated ORV system trails, routes and areas, while the other 23% was spent at trailheads. Key ORV violations targeted by the participating sheriffs were: operation under the influence of drugs/alcohol, operation by a non-certified youth without adult supervision, trespass on private lands, ORV operation on public lands/roadways where prohibited and lack of an approved helmet/safety equipment. They cited public safety need, citizen concerns about trespass, increasing ORV use and increasing illegal ORV use on roadways as the key reasons for their participation in ORV enforcement. If additional money were available for county sheriff ORV enforcement, they would provide additional patrol hours or purchase new/appropriate ORV patrol equipment. A number questioned why certified police officers are needed for ORV patrol when for marine safety and snowmobile enforcement deputies with substantially less training are legally empowered to enforce a limited set of applicable laws. Further, many marine deputies are school teachers, who are also effective marine safety instructors, coupling knowledge of safe boating with professional teaching knowledge and educational skills from years of experience in their primary job. There was interest in a similar situation for ORV enforcement by some participating sheriffs.

Northern Michigan County Road Commission Managers

A 2004 mail survey was conducted of the road commission managers of the northernmost 56 Michigan counties. A copy of survey instrument is found in Appendix A. Of these, 33 (59%) responded. A slight majority, 17 (52%) did not allow ORV use on any road shoulders, 10 allowed ORV use on all county road shoulders and 6 on some county road shoulders. A number were at pains to point out that these decisions were made by the county board of commissioners, not the road commission.

Of those counties that allowed no access to county roads, key concerns were liability, safety of ORV and other motor vehicle operators/occupants and additional road maintenance costs. Of those who allowed some access to road shoulders, the concerns mentioned above were weighed against the need/interest in connecting trail loops, promoting tourism through linking the designated system through targeted access routes to goods and services, cooperating with ORV organizations and achieving balance in the county between those supporting access to all road shoulders and those opposed to any access to road shoulders. For those counties that opened all county road shoulders for

ORV use, key supporting rationale was that it promoted tourism, assisted agriculture, was supported by many local people and complemented road shoulders already open to snowmobile use.

Where it is illegal to ride county road shoulders, citizen comment received by the road commission about such riding were that the illegal use damaged road shoulders, led to trespass on private lands and ORVs traveling on road shoulders at excessive speeds in an attempt to evade citation, leading to safety concerns for ORV riders and operators of street legal vehicles. Conversely, where it was legal, road commission managers reported citizen comments that legal use had reduced speeding by ORVs on road shoulders, had benefited service businesses, had led to road and shoulder damage and was often confusing to older motorists, creating a safety risk. As a group, road commission managers were more supportive of having the DNR acquire land or designate existing forest roads to link together existing ORV trail loops than to use the county road system for such purposes.

ORV Programs in Other States

State trail coordinators in other states were surveyed in 2004 to better understand approaches taken elsewhere that may benefit Michigan. A copy of the survey instrument is found in Appendix A. A total of 26 of 49 (53%) other states responded. Only 6 (23%) have a state ORV plan. Twenty-five (96%) had some public land ORV riding opportunity with 77% having federal land opportunities, 73% having state land opportunities and 46% having local public land opportunities. Michigan also has public land riding opportunities at all three levels of government. About half (52%) used a “closed unless posted open” approach, such as Michigan uses in the Lower Peninsula, while 48% had a more “open unless posted closed” approach. In many states this “open unless posted closed” approach is likely to change if the US Forest Service is the provider of public ORV riding opportunity. The agency has announced a nationwide direction toward a “closed unless posted open” approach that is currently being built into forest plan revisions.

In regards to trail systems, most states were unlike Michigan in that the majority of trail miles (79%) were open to all types of ORVs, while in Michigan the system has developed in a manner that provides a significant amount of motorcycle trail and ATV trail. Trail maintenance involved non-profits in 69% of the states, 35% used for-profit contractors, 58% involved the state government, 62% involved the federal government and 23% had some local public maintenance. In Michigan, all the above except for for-profit contractors are directly used and supported by the ORV Trail Maintenance grant program. Relatively few states (27%) were involved in restoring environmental damage from ORV use. Michigan has dedicated funds to annually be spent on restoring environmental damage to public lands caused by ORV use. In addition, Michigan has distinct priorities targeting the protection of surface waters, designated wilderness, federal wild and scenic rivers, state natural rivers and sensitive and aesthetic areas.

Bob Walker (MT), chair of the National Association of Off-Highway Vehicle (OHV) State Program Managers, annually gathers and distributes information about state OHV

education requirements. Of the 49 states providing data in 2004, 17 (35%) require some safety education for riders, typically youth. Michigan is one of those states. Most states, 32 (65%), however have no minimum safety education requirement for operating an ORV. Further, while 26 (53%) states have a minimum age for the operation of an ORV, 23 (47%) have no minimum age. Michigan is one of the states with a minimum age requirement. Finally, of those states without a minimum age requirement, none mandates a safety education program and certification.

ORV Accidents and Fatalities in Michigan

A single, all encompassing source for data regarding ORV accident statistics and the circumstances surrounding those accidents does not appear to be available. Currently, the Michigan DNR Law Enforcement Division investigates every snowmobile fatality and files a detailed report tailored to snowmobiling (e.g. whether the operator was on the designated snowmobile trail system, etc.) in addition to the typical vehicle accident reporting form (characterized as a UD-10 form). This is not the case with ORV fatalities. To date, ORV fatalities and accident circumstances are lumped in with road related data. Two sources provide some insight into Michigan ORV accident and fatality statistics. The US Consumer Products Safety Commission (2003) reported that 1982-2002 Michigan had 224 people die in ATV accidents. The use of the term ATV suggests that this does not include off-road motorcycles or full-size 4 wheel drive vehicles used in off-road situations. There is also no accompanying data to determine where (roadway, trail, frozen lake, etc.) the fatal accidents occurred or the circumstances of those accidents. The Michigan State Police Office of Highway Safety Planning (2004) reported that during 1994-2003 there were 2,528 ORV/ATV accidents on Michigan roadways, resulting in 77 fatalities. Again, this does not specify what constituted an ORV and what constituted a roadway. Is a dual sport motorcycle an ORV? Is a UP forest trail a roadway? Implementing an investigation and reporting system similar to that for snowmobile fatalities and hunting accidents and fatalities would provide much more accurate and useful data in analyzing ORV safety. Key questions may include:

- (a) Where did the accident occur? (e.g. designated ORV system, road shoulder open to ORV use, road shoulder closed to ORV use, frozen lake, private land, etc.)
- (b) Had the operator of the ORV that died completed an ORV safety certification course and been certified? Had any other operators involved received ORV safety certification?
- (c) What type(s) of ORV(s) did the accident involve? Were there full-size automobiles involved? What were the factors that contributed to the accident?

Public Comment at Regional ORV Information Meetings

Three public information meetings were held to garner public input regarding the ORV plan. The public was also encouraged to comment about ORV use, users, facilities, environmental damage, trespass and any other issue regarding ORVs. The meetings were held Tuesday October 12 at 7PM in the Holiday Inn South in Lansing, Wednesday October 13 at 7PM in the Holiday Inn in Grayling and Thursday October 14 at 7PM in

the Ramada Inn in Marquette. The meetings were widely advertised by the DNR and groups related to public forest issues and ORV use and users. Ninety-two signed the attendance sheet in Lansing, 63 signed in Grayling and 100 signed in Marquette. It is likely that there were additional members of the public attending who did not sign, but a specific count of those additional attendees was not kept. While there were some common themes across meetings (need more legal places to ride and need to have opportunities tailored to each ORV user group such as motorcycles, ATVs and, full size vehicles), each meeting had a distinct character and considerable public input.

Lansing Meeting

Three distinct ORV user groups were represented at the Lansing meeting, off-road motorcycle riders, ATV riders and those who drive full-size four-wheel drive trucks, jeeps and specialty vehicles such as dune buggies. Each set of riders was also represented by organizational leaders from groups advocating for each type of ORV use. These leaders and many non-affiliated individuals from each type of ORV use advocated for distinct facilities specific to their needs. Many suggested parallel trails in a common corridor, thus providing a separate motorcycle trail and a separate ATV trail in a common corridor of influence. Users of full-size vehicles strongly advocated for more “play” or scramble areas focused specifically on their needs. Many noted they went out of state to find suitable riding opportunities, taking their tourism dollars with them.

There was support across the three user groups for direct access from trails to goods and services such as gasoline, grocery and convenience stores, restaurant food/drink, lodging, etc. Most ORV riders advocated for reopening the full forest road system in the Lower Peninsula to ORV use without being posted open (a situation similar to the UP today). A number of instructors of hands-on ORV safety certification were present and strongly advocated to retain such an education system over a classroom oriented approach. Most in the audience agreed with this position. Finally, there was strong support for using the state gasoline sales tax generated by ORV use for ORV programs, as had been recommended in the original ORV law (PA 319 of 1975). No persons spoke who did not identify themselves as ORV riders of one type or another.

Grayling Meeting

Four distinct groups of ORV users attended the Grayling meeting. In addition to motorcycle, ATV and full-size vehicle enthusiasts, those that ride large ATVs (54 - 56” wide John Deere Gator, Kawasaki Mule, etc.) were also present and provided input. As in Lansing, no person spoke who did not identify himself/herself as an ORV rider. Most concerns were similar to those voiced in Lansing including support for a trail system that provided separate opportunities for different types of ORVs, access to goods and services from ORV riding sites, opening the forest road system unsigned like the UP, preference for hands on ORV safety education and support for using state gasoline sales tax generated by ORV use for ORV programs.

In addition, there were a number of specific comments about the need to better maintain the designated trail system in the northern Lower Peninsula, including additional trail maintenance and relocation of trails to more suitable sites (less whooped out, drier, etc.).

The riders of large ATVs also advocated for creation of a designated route system that provided a complete riding opportunity (e.g. large loop), not routes merely as short connectors between motorcycle or ATV trail loops. This was echoed by those who believed this would have positive tourism impacts, especially for older riders, who desired a less technical, more leisurely ride through public forest land and were interested in scenery, stopping to pick mushrooms or berries, etc.

Marquette Meeting

The Marquette meeting had the largest attendance and was the most diverse of the three meetings in terms of comments and the presence of non-ORV users. A number of UP landowners who did not ride ORVs brought in photographs of ORV damage to their lands by trespassers. They advocated for increased law enforcement and for the ORV community to “clean up its act”. Riders also attended who did not consider themselves trail riders, rather hunters and anglers who use ATVs as support vehicles to reach remote hunting, fishing and camping locations.

There was visible confusion about the legality of cross-country travel on state forest lands (without the benefit of any trail or road), which some thought was legal until DNR Law Enforcement personnel explained it was not. There was also concern expressed about what form US Forest Service implementation of a more “closed unless posted open” policy would take. Those who spoke and mentioned the current system of state forest roads as well as the designated ORV system being open to ORV use were supportive of continuing that approach in the UP. Many also supported the counties who had their road shoulders open to ORV use.

A number of members of the tourism industry commented on the current and potentially greater importance of ORV riding to the region’s economy. In particular, they advocated for lengthy, designated ORV routes and trails that would promote motorized trail tourism in non-snow months similar to winter snowmobiling. They felt the presence of such long-distance designated trails would be critical to attracting and retaining such tourism. Others felt it was important for ORV program signage to be compatible with snowmobile program signage.

Finally, some county sheriff department ORV safety instructors noted that they supported an approach to provide classroom ORV safety education through county sheriffs using the schools (similar to marine safety) as a methodology to rapidly reach more youngsters than the hands-on approach. This was not universally supported, but many were in agreement. The group also heard input from a parent whose son had been killed in an ORV accident on a private road by a chain.

Written Public Comment Provided to the DNR

The Michigan DNR designated Steve Kubisiak, Recreation and Trails Program Coordinator, to receive written comment, by both regular and electronic mail. A total of 64 distinct individuals wrote to Steve regarding updating the ORV plan. While some communications only spoke about one topic, most covered two or more. A clear majority of those commenting overall wanted to increase ORV opportunity in some way in

Michigan. Suggestions included opening the forest road system in the Lower Peninsula to ORV use without designation as in the UP (especially strong suggestion of ATV riders), allow ORVs to travel wherever snowmobiles can, open some or all county road shoulders to ORV use and site additional ORV facilities in southern Michigan where most people live to enhance convenience, not only for Michigan residents, but also for residents of Ohio and Indiana. A minority, wanted to further restrict ORV opportunity or keep it as it is. Their suggestions included “closed unless posted open” in the UP, not opening county road shoulders to ORV use, better ORV enforcement to catch trespassers on private lands and those riding illegally on Great Lakes beaches and more strict licensing/insurance requirements to operate ORVs.

Beyond those two general orientations there were other important points. A number commented on improving economic benefits of ORV use through tourism. Key suggestions were to improve designated connections from ORV trails/routes/areas to communities with goods and services and acquiring long-term leases for ORV trails/routes on private lands such as those owned by forest products companies. Others advocated for separate trail systems for ATVs, motorcycles and full size vehicles to reduce conflicts and to provide the experiences each group is seeking. Another smaller set of comments was supportive of improvements in managing the designated system including better maps, signage and trail maintenance such as additional grading and re-routing whooped out trails.

A group of those providing written input directly reiterated their support for the positions of the Michigan Cycle Conservation Club regarding the ORV plan update. These positions include additional designated system mileage with additional trailheads and separate trails for different types of ORVs, long distance loop and point-to-point trails to promote tourism, opening forest roads in the Lower Peninsula to ORV use, support for hands-on ORV safety education, no net loss/replacement of trail mileage lost in the system due to a variety of situations such as timber harvest, wet areas, etc., access to ORV generated state gasoline sales tax revenue for ORV programs, improved ORV signage that is compatible between the ORV and snowmobile program, re-route/rest whooped out trail and promote the family values of the ORV use.

ORV Grant Recipient Workshops

Below are the summaries of the September 16, 2004 ORV Damage Restoration workshop (held at the Grayling DNR Field Office) and the September 21, 2004 ORV Trail Maintenance workshop (held at the Ralph A. MacMullen Conference Center). All active grant recipients for each program were invited. Attendants at the Restoration workshop included one or more representatives from the US Forest Service, Michigan DNR Forest, Minerals and Fire Management Division, Huron Pines RC and D, Antrim County Conservation District, Michigan ORV Advisory Committee and Michigan United Conservation Clubs. At the Trail Maintenance workshop there were attendees from the Michigan DNR Forest, Minerals and Fire Management Division, US Forest Service, Cycle Conservation Club, Great Lakes 4-Wheel Drive Association, Irons Area Tourist Association, Michigan ORV Advisory Board, Lansing Motorcycle Club, Twin Bay Trail

Riders, Ogemaw Hills Snowmobile Club, Sportsman's ORV Association and the Drummond Island Off-Road Club.

Environmental Damage Restoration

Participants noted there was a need for a systematic approach to identify ORV damage to public lands. The current operations inventory (OI) on state forest lands is often ineffective in identifying damage as ORV damage recognition has not been an inventory priority and much of the work is done during months of snow cover, making erosion difficult to detect. However, even though there is not a current systematic effort to identify ORV damage, the damage appears to be widespread in the northern Lower Peninsula. It was recommended that a systematic effort be initiated to identify ORV damage on public lands.

There was significant support for the current DNR priorities in restoring ORV damage:

- (a) reduce or eliminate erosion into any body of water
- (b) restore damage in any designated roadless area, state natural river corridor or federal wild and scenic river corridor
- (c) restore damage to aesthetically sensitive areas

Concern was expressed about the complexity ("red tape") in getting funding, such as providing engineering specifications for barriers to access that could be fashioned from natural materials such as slash and stumps generated during a timber sale. It was discussed that the USDA Natural Resource Conservation Service provides useful guidelines that private landowners successfully use across the nation (and in Michigan) to plant grasses in filter strips near waterways or on erodible slopes.

Finally, it was noted that there were few restoration efforts underway and that more were needed. It was suggested that additional restoration cooperators could be recruited from the ranks of habitat related organizations with professional expertise such as Trout Unlimited and Ducks Unlimited, as well as from county conservation districts and Resource Conservation and Development Area Councils.

Trail Maintenance

Some participants expressed concern about their ability to maintain the portions of the designated system they are committed to at existing rates of reimbursement. Some noted they needed funds to hire manual labor and that the current rates of reimbursement for ORV trail and ORV route maintenance were insufficient. They also noted that ORV use of the designated system was increasing and this was resulting in additional maintenance expense, as well as the need for additional grading and trail rerouting.

Concerning signage, they strongly supported the DNR creation of sign plans for individual trails. They were specifically concerned that without such trail-by-trail sign plans they are exposed to greater liability when they interpret systemwide standards (IC 1991 "DNR ORV Trail and Route Maintenance Handbook") than they would be if they were following trail specific sign plans. Grant recipients want their role to be one of

following detailed instructions in a trail sign plan on the site specific placement of signs, rather than as an independent contractor with discretionary authority interpreting a system-based sign standard. They were also supportive of signage approaches that made trails more distinct to riders, such as that used in the AuSable Pilot Project to highlight confidence markers.

Finally, they expressed concern about the influence of timber harvest on trail condition, mileage and maintenance. Many noted that harvest tended to straighten trails, thus reducing mileage. Also, trails were often rerouted onto forest roads, reducing the technical challenge and aesthetic value. Some suggested leaving trail corridors in tact. Other suggestions were to clearly measure the pre-harvest mileage and insure equal mileage of equal value is put on the ground nearby to reroute the trail after the sale.

Comments of DNR Field Personnel from Regional Workshops

On October 14 in Grayling and October 15 in Marquette, DNR field personnel were invited to express their opinions regarding issues for the updated ORV plan. Those attending included personnel from FMFM, Law Enforcement and Wildlife Divisions.

Grayling Workshop

How the DNR integrates ORV management into its overall land management and conservation mission occupied much of the workshop. Many expressed concerns that the range of management activities at the unit level has grown while personnel resources have been static or declining. Field personnel were specifically concerned that the lack of trail analysts over the previous year (the two positions in the Lower Peninsula were vacant for much of the time) had limited their ability to effectively manage the ORV program.

There was also considerable concern about ORV damage to the environment, particularly to sensitive hillsides and riparian zones. This was heightened in the counties where all county road shoulders were opened to ORV use. Many perceived that this policy directly contributed to increased environmental damage on state owned lands, even if those lands were not posted open to ORV use. There was also concern about whether ORV rule violations were prosecuted uniformly across the state.

Restoration of environmental damage from ORV use on public lands was viewed as an important, but very time intensive activity. Field personnel were dismayed by what they perceived of as “red tape” in their efforts to access and use ORV damage restoration funds and provided examples of bypassing that system in favor of using the timber sale process to block illegal ORV access and re-vegetate eroded soils. There was strong support for greater field responsibility for administering, implementing and monitoring such environmental restoration efforts.

A number of FMFM management unit and regional personnel noted their support for an employee classification that would provide employees dedicated solely to forest recreation at the management unit level. They cited a year-round workload with snowmobile, ORV, state forest campgrounds, water access sites, rail-trails and pathways.

One suggestion from a number at the workshop to better integrate one aspect of ORV use on public lands with land management responsibilities, was to link some ORV motorcycle event locations to the timber sale program. Such events involve temporary trail that is used in a single ride or a series of rides over a week or less. Then the temporary trail is decommissioned and hopefully effaced. The suggestion was to have event trail sited at locations for near future (1-3 years out) timber harvest. The concept being that the harvest would effectively efface the trail after the event was concluded and the course would be laid out within the confines of the sale area.

Marquette Workshop

Only FMFM employees attended the Marquette workshop. They tended to see more positive links between the ORV program and the rest of the DNR mission. In particular, they saw positive links among ORV routes, which benefit ORV users and snowmobilers and timber and fire efforts.

There was also support for long distance point-to-point and major loop trails to promote ORV tourism in the UP. Many had heard from constituents about local support for such venues and believed it could be a valuable part of the tourism economy and be managed in an environmentally sensitive manner.

There was concern expressed about illegal ORV use at specific sites, such as near streams where ORV users were creating illegal access to promote fishing and camping locations. Some were supporters of a “closed unless open” approach in the UP, but this was a minority opinion.

As in the Lower Peninsula, there was very strong support for management unit level personnel solely dedicated to recreation. It was envisioned that these employees would have responsibilities regarding motorized and non-motorized trails, campgrounds and water access sites. They acknowledged a year-round workload in this area and current and potential funding available for this purpose.

US Forest Service ORV Policy

On July 15, 2004 the Forest Service published proposed regulations regarding ORVs (they characterize as off-highway vehicles or OHVs) in the Federal Register. It was prompted by Forest Service Chief Dale Bosworth citing unmanaged recreation, including impacts from OHVs, as one of the four key threats facing national forests and grasslands.

The Forest Service notes the following highlights of the proposed rule on their website www.fs.fed.us/recreation/programs/ohv/index.html.

- The proposed rule would require designation of those roads, trails, and areas open to motor vehicles.
- Designation would include class of vehicle and, if appropriate, time of year for motor vehicle use. A given route, for example, could be designated for use by motorcycles, ATV's, or street-legal vehicles.

- Once designation is complete, the rule would prohibit motor vehicle use off the designated system or inconsistent with the designations.
- Designation decisions would be made locally, with public input and in coordination with state, local, and tribal governments.

The final regulations will be published in 2005, to be followed by proposed directives in the Forest Service Handbook and Manual. Ultimately, over the next few years, individual national forest managers will involve the public in designating roads, trails and areas for ORV use. In this designation and subsequent management, the Forest Service is seeking partnerships in planning, maintenance, environmental protection/restoration and enforcement.

These Forest Service actions are important for Michigan ORV use and users. Currently 14% of the designated Michigan trail/route system is on national forest land. Proposed designation of additional components in the Upper Peninsula is likely. Limiting ORV use to designated roads and trails in UP national forests may also influence ORV use on Upper Peninsula state forest roads as connections to national forest roads that were once available may be severed. There may also be confusion among the riding and non-riding public regarding where it is and is not legal to ride a DNR licensed ORV. In the Lower Peninsula, the Huron-Manistee National Forests have already adopted the approach contained in the proposed regulations and significant changes are not anticipated.

ORV Plan Action Steps, Rationale and Fiscal Implications

Based on the data previously presented, public input, DNR input, input from local law enforcement and road commission managers, actions of other states to manage ORVs and the author's professional judgment, the following recommendations are presented. Each recommendation is grouped under a basic heading, bolded and followed by a brief discussion of rationale and potential fiscal implications.

Designated System

- 1. Upgrade the existing designated ORV system to the point of all trails/routes meeting maintenance standards, thus meeting recreational needs and safeguarding riders and the environment.**
 - a. Rationale** is that the 1997 designated system assessment (Lynch and Nelson 1997) noted that 61% of the system was rated as *good* (meeting maintenance standards over more than 95% of the trail/route mileage). The 2004 designated system assessment reported that 67% was rated as *good* and only 2% rated as *poor*. While this demonstrates progress, a considerable portion of the designated system is not meeting maintenance standards.
 - b.** Key challenges noted in the 2004 assessment concerning trails not meeting maintenance standards were poor overall maintenance, need for re-routes or boardwalks for wet areas, need for additional brushing, erosion concerns, illegal near trail uses (e.g. hill climbs, spur trails) and inadequate or improper signage and whooped out (corrugated) trail.

- c. **Fiscal** implications are significant. However, it is imperative to manage the designated system to meet the DNR's mission of resource conservation and protection, meeting outdoor recreation needs and safeguarding riders. It is also a priority to bring the existing system up to standard
- 2. Develop additional cycle and ATV trail, ORV route and ORV area that can be maintained to standard to meet increasing user demand.**
- a. **Rationale** is the 64% growth in ORV licenses from 104,745 in 1998 to 171,748 in 2003, while the designated system has been relatively static in size.
 - b. Increased proportion (27% vs.21%) of annual ORV uses (4.2 million 1998-99 vs. 4.1 million 1987-88) is on the designated system (Nelson 1989; Nelson et al. 2000).
 - c. 29% of all ORV licensees use one or more of the existing scramble areas (Nelson et al. 2000), of which some areas are not accessible to full size vehicles.
 - d. Technology/industry has created new ORV platforms (e.g. 54 and 56" wide vehicles) which have a limited number of public places to legally ride in the Lower Peninsula and are not street legal.
 - e. Additional designated riding opportunities to meet the needs of the range of ORV licensees was the most common request expressed at 2004 ORV plan update public information meetings as well as in previous statewide ORV user surveys (Nelson 1989; Nelson et al. 2000).
 - f. **Actions** to expand the designated ORV system while limiting social and environmental impacts and containing development and maintenance costs:
 - i. **Expand the route system using existing forest roads in the NLP and UP by making routes both connectors between ORV trail loops and creating connected, destination loop and point-to-point routes to support leisurely, longer distance ORV route travel.** This would benefit traditional, more technical trail riders through connecting existing trails by DNR licensed legal ORV routes. It would also benefit family/senior/tourist riders seeking a more relaxed experience. In addition, it would provide a place for larger ATVs (e.g. Kawasaki Mule, etc.), which have no trail opportunities (too wide for cycle or ATV trails) other than the current route system, which now is primarily focused on connecting cycle and ATV trails. This approach has strong support from the tourism industry and the riding public as expressed at the 2004 public information meetings.
 - ii. **Expand the cycle and ATV trail system by locating additional trails parallel to current trails within the same corridor of influence where feasible.** For example, a new ATV trail could be located in the same corridor of influence (e.g. 100 foot wide corridor) as an existing cycle trail. This could limit environmental and social impacts to current ORV system corridors of influence and make maintenance operations more efficient on a per corridor

mile basis as the travel costs of maintenance grant recipients would be greatly reduced as would the logistics of moving materials (e.g. signs, posts, etc.) if a single maintenance grant sponsor was used. Also, a single trailhead could serve both trails, reducing total trailhead maintenance costs.

iii. **Better publicize existing ORV scramble areas and provide at least one new area.** At the public information meetings, some ORV licensees, especially those with large 4 wheel drive vehicles, expressed a lack of knowledge of major scramble areas (e.g. St. Helen's) and concern that those they knew of (e.g. Silver Lake) were too crowded. A new area should include opportunities for large four-wheel drive vehicles and be linked by the ORV route system to provide legal access for all DNR licensed ORVs to local goods and services. The St. Helen's Motorsport Area development plan, which has yet to be fully implemented, would provide this important area more recognition and better meet the needs of large 4 wheel drive riders. The DNR should consider currently compromised sites on state forest and other public lands. Finally, the DNR should consider locating a new ORV area in southern Michigan. This had strong public support and was a major goal of the 1979 ORV plan and the 1991-1996 SCORP that was not realized.

iv. **In this expansion of riding activity, the DNR needs to have partner land managers.** This includes the USDA Forest Service, local government and major corporate landowners such as forest products companies and utilities. It is unreasonable to expect all expansion to occur on state forest lands. This is especially true of a potential scramble area in southern Michigan.

g. **Fiscal** implications are significant. Forest managers, guided by the DNR's mission, should work with ORV interests in locating new trail/route/areas. This will provide a larger system to maintain. Fortunately, with 65,000 more ORV licenses sold annually in 2003 than in 1998, users have provided additional funds that may be used for this expansion and its maintenance. This targeted expansion, coupled with a focus on bringing the 26% of the system that is in sub-standard condition up to standard, will provide a system that is better sited, meets the needs of ORV licensees and better safeguards the environment. As noted in the 2004 system assessment (Tables 9-10), re-routes, boardwalks, improved brushing and signage are key needs to bring the system up to standard. In turn, this should decrease ORV damage restoration costs on public lands, as there will be an appropriate, designated system for trail riders. In addition, this should boost tourism, generate additional Michigan sales tax revenue and provide the basis for continued user pay support of Michigan ORV programs.

3. **Signage (travel management and regulatory) on the trail/route system should follow national signing standards for motorized trails used by the USDA**

Forest Service (e.g. USDA Forest Service Manual for Forest Service Signs and Posters EM-7100-15 US Forest Service Engineering Staff Report).

- a. **Rationale** is that signage needs to be consistent across motorized trail systems (snowmobile and ORV) in Michigan to increase understanding of trail resources, rules governing their use and promote trail user safety. In addition, this will promote cost efficiency in the purchase of signs, as well as better protect maintenance cooperators from liability. It also needs to be seamless as a rider passes from one jurisdiction (state forest) to another (national forest).
 - b. **Fiscal** implications are significant. This will include replacement of a variety of existing signage with common, durable, visible, internationally recognized signs.
4. **Have no net loss of ORV trail opportunity (quality and quantity) due to forest vegetation management.**
- a. **Rationale** is that at trail maintenance cooperator meetings and at public information meetings, concerns were raised that trail mileage and quality (technical challenge) was degraded by timber harvest management. Trails were often straightened, thus shortening them, reducing their technical challenge and increasing speeds. This in turn was perceived to compromise rider safety and decrease rider satisfaction.
 - b. To have no net loss, trail mileage should be accurately determined prior to harvest. This can occur during operations inventory, in the forest treatment proposal or during the timber sale process. Final trail condition can be part of the sale contract, requiring vigilance by FMFM unit personnel in contract enforcement. To maintain trail quality and quantity, managers may need to employ a variety of approaches. These include re-creation of the trail in its original footprint or cooperation with trail maintenance grant sponsors to relocate the trail in or near the compartment in a manner compatible with other land management objectives and trail purposes. Updates to maps should be submitted upon completion of the harvest and positioning of the trail post-harvest. In addition, travel management and regulatory signage should reflect any changes in trail alignment with appropriate adjustment in the trail sign plan.
 - c. **Fiscal** implications are minimal if future trail condition is considered pre-harvest. Involvement of DNR field personnel is critical to meeting this objective.
5. **Maintain the current approach of “closed unless posted open” in the NLP and allow DNR licensed ORVs to continue to use UP state forest roads without posting open.**
- a. **Rationale** is that based on information presented at the 2004 public information meetings, most riders want all state forest roads all open for DNR licensed ORV use. However, forest roads in the NLP do not universally provide a safe environment for DNR licensed ORV use. Further they rarely provide technical riding opportunities and many are intensively used for car and truck traffic, creating a safety hazard for all vehicle operators. Further, there is substantial opportunity for increased

social conflict with other forest users and with adjacent private landowners and well as a perception that any way capable of travel by an ORV is open to ORV use. Even with “closed unless posted open” rules in effect, there are considerable problems with ORV damage to public lands and trespass and damage to private lands adjacent to public lands as reported by DNR field staff. Conversely, in the UP, there are significant regional differences that make it more appropriate to provide more flexibility with ORV use. First, population levels and density are much lower in the UP, reducing the potential for social conflict. Second, there are larger, contiguous blocks of public land further reducing the chances for social conflict and trespass. Third, UP vehicular traffic volume is less, thereby promoting operator safety.

b. **Fiscal** implications of maintaining this policy should be minimal.

6. Encourage compliance by local units of government with the current ORV law regarding designated ORV trail/route/area access along streets and highways under its jurisdiction (as described in section 324.81131 of Public Act 451 of 1994 as amended) that limits ORV use along locally managed streets and highways to that which meets the requirements of the state comprehensive ORV system plan providing access to the designated system.

- a. **Rationale** is that of the 33 county road commission managers in the UP and the NLP that responded to a 2004 survey done as part of this ORV plan update effort, 17 did not allow ORV use on any road shoulders, 10 allowed ORV use on all county road shoulders and 6 on some road shoulders. Of those who allowed some or no access to county roads, key concerns were liability, safety of ORV and other motor vehicle operators and occupants and additional road maintenance costs. Of those who allowed full access to all county road shoulders, key supporting rationale was that it promoted tourism, assisted agriculture, had the support of many local people and it complemented road shoulders already open to snowmobile use. Based on many DNR field reports in the NLP, coupled with recent ORV damage pictures (submitted by DNR staff) on public lands away from the designated trail system, DNR field personnel assert that unrestricted ORV access to county roads and/or shoulders in the NLP significantly contributes to illegal ORV use of public lands away from the designated trail/route/area system. This is in contrast to experiences reported in counties with targeted links from the ORV trail system to goods and services in towns. There, positive tourism benefits were noted and environmental damage on public lands away from the designated system was less.
- b. Counties need to be cognizant of the definition of gross negligence “conduct so reckless as to demonstrate a substantial lack of concern for whether an injury results” (324.81131.4 MCL) and the variable quality of county roadways and their shoulders in their designations.
- c. How riding on road shoulders relates to rider safety is not fully understood. The Michigan Office of Highway Safety notes that during 1994-2003, a total of 2,528 ORV/ATV accidents occurred on Michigan roadways. Better data about ORV fatalities and injury accidents in Michigan is needed.

- d. **Fiscal** implications are minimal to the state.
- 7. **Annually monitor the condition of the designated ORV system using the trail assessment instrument used in the 2004 system assessment.**
 - a. **Rationale** is that to properly safeguard the environment and promote rider safety, annual monitoring of trail and trailside conditions is necessary. This should also provide a useful data set to evaluate trends regarding areas of concern such as deteriorating trail conditions, conflicts and illegal uses.
 - b. **Fiscal** implications with three full time trail analysts should not be significant as trail assessments should be part of evaluating trail maintenance by cooperators and inventorying for near and on-trail environmental damage. Some additional expense will be annually generated by the cost of data entry and analysis which previously has only been reported at approximately five year intervals. However, this is more than off-set by the ability to best direct resources to areas of greatest need and being able to quickly identify trends and concerns in trail maintenance and the need for damage restoration. This process will also help the DNR to meet its legal obligation to develop and implement resource management plans and monitor trail/route conditions and grant sponsor performance.
- 8. **Every five years DNR should conduct an assessment of ORV use and users including concerns of ORV licensees, data regarding the economic impact of ORV use and suggestions to improve Michigan's ORV program.**
 - a. **Rationale** is that regular assessment of ORV program participants will improve the ability of the DNR to meet ORV license holder needs, assess shifts in use that may have social, economic and environmental impacts and gauge rider reaction to management alternatives.
 - b. **Fiscal** implications are moderate. Use of the ORV license list would provide ready access to ORV license holders, allowing a representative sample to be selected that provided a valid cross section of ORV license holders with minimal expense.

System Maintenance

- 1. **Increase the *maximum* rate of trail reimbursement per mile for maintenance cooperators to \$154.00 per mile for cycle trail and ATV trail and \$89.00 per mile for ORV route. Maintenance standards would remain the same (IC 1990 "ORV Trail Improvement Fund Procedures Manual", IC 1991 "DNR ORV Trail and Route Maintenance Handbook" and IC 3600 "ORV Trail Maintenance Grant Application Information") and be strictly enforced.**
 - a. **Rationale** is that maintenance cooperators reported their costs as averaging \$133.09/mile at the 1997 ORV Trail and Route Maintenance Workshop *if* they paid labor costs of \$6 per worker hour (Lynch and Nelson 1997). However, at that time, most were not paying labor costs and the DNR decided not to include labor costs in the reimbursement rate per mile. Since then, at the 2004 maintenance cooperators workshop, some cooperators reported the need to hire labor and their inability to do so at the current \$54 per mile rate for ORV trail. As a result, some had challenges meeting trail maintenance standards. To upgrade trail

maintenance and to fairly recompense cooperators, it is recommended that the reimbursement rate be \$154.00 per designated ORV trail mile. This is derived by multiplying \$133.09 (average dollar amount needed per mile by cooperators in 1997 including labor costs) by 1.16 (increase in the Labor Department's Midwest Consumer Price Index from 6/97 – 6/04).

- b. A similar rationale applies to ORV routes. Costs calculated at the 1997 ORV maintenance cooperators workshop including labor costs were \$76.74 per mile for ORV routes. Multiplying this by 1.16 (rate of inflation over the period) provides a per mile rate of \$89 for routes.
 - c. Further rationale is that costs have increased substantially for other out of pocket expenses such as fuel.
 - d. **Fiscal implication** is considerable. The maximum cost for the 2,705 mile trail system that was inventoried in fall 2004 would be 2,247 (miles of trail) x \$154= \$346,038 + 458 (miles of route) x \$89=\$40,762 for a total system cost \$386,800. This amounts to 14% of the most recent complete year of ORV license sales (2003-04), with license revenue of \$2,796,384.50 (DNR Grants, Contracts and Customer Systems as of 1/18/05).
2. **Explore multi-year and competitive bid options for trail maintenance, including opportunity to have for-profit entities compete to be trail maintenance grant sponsors.**
- a. **Rationale** is that a longer term commitment and the ability of potential grant sponsors to compete for the opportunity will provide more cost effective maintenance while expanding the pool of potential cooperators.
 - b. **Fiscal** implications are likely to be positive as competition should decrease costs and longer planning horizons should facilitate cooperators investment in needed maintenance equipment that can be depreciated over a multi-year period.
3. **A plan for regulatory signs should be completed by the DNR for every designated trail/route. This plan should clearly demarcate sign location and type, following the USDA Forest Service's nationally recognized signage standards for motorized trail (ORV and snowmobile) recreation.**
- a. **Rationale** is these plans are required for all DNR trails and their provision should relieve trail maintenance cooperators of discretionary authority regarding the proper regulatory signage, including placement. This puts them in the appropriate role of those maintaining, through carrying out specific, detailed plans, the portions of ORV trail/route they have agreed to maintain without providing cooperators discretionary authority.
 - b. **Fiscal** implications are considerable, as development of the sign plans will involve considerable work by the field to document sign locations with global positioning system (GPS) units and make data dictionary entries. In addition, it will require the clear adoption of nationally recognized signage standards. However, once this is initially completed, this may have a positive effect on cooperator liability insurance rates as it is clear that state professionals have clearly designated all sign locations following nationally recognized standards. Further, this may encourage more

cooperators to participate in maintenance and may reduce maintenance time.

4. **Provide for ORV trailhead maintenance throughout the snow free months (typically April 1 – October 31) corresponding to the ORV riding season.**
 - a. **Rationale** is that this would ensure full coverage of the principal season for ORV use. Especially in the central NLP, many trail maintenance cooperators noted that trailhead maintenance was often not performed during months of heavy ORV use in the spring and fall. Significant spring and fall use of designated trails and routes was also noted in the field assessment of the ORV trail system in fall 2004
 - b. **Fiscal** implications are that this may increase the short-term worker budget for trailhead maintenance, be part of a service contract or may be part of a grant agreement with a maintenance cooperator. However, this expenditure is justified based on ORV system use patterns and the need to better maintain the substantial DNR investment in ORV trailheads.

Enduro Motorcycle Events

1. **Target ORV motorcycle enduro event trail to sites of proposed timber harvest (1-2 years out).**
 - a. Rationale is that while this is a broader forest land management issue, it is at the interface of land management and ORV use and is addressed in this plan. Enduro ORV motorcycle events involve a temporary trail that is used for a specific event, not providing any given rider an advantage by having long-term familiarity with the course. After the event, the trail needs to be effaced. This can be effectively and efficiently accomplished by the physical harvest of timber and the resulting land management activities. This approach has support of staff and field personnel in FMFM as well as by ORV motorcycle event participants and organizers. It will require closer cooperation between forest vegetation managers, trail/recreation managers and event organizers and participants. Consideration of potential ORV events in the compartment review process will be critical the success of this effort.
 - b. **Fiscal** implications appear minimal and in fact this may result in a savings as the universe for such events is much better defined, they can be more easily planned in advance and permitting may be a smoother process.

Program Administration

1. **Clarify responsibilities and strengthen the working relationship among DNR personnel involved in ORV system management and grant programs to enhance effectiveness and efficiency.**
 - a. **Rationale** is that the ORV program an important part of DNR land management efforts across the state forest system and in its linkage with the national forest system in Michigan. Clear lines of responsibility and a professional working relationship are critical to providing a viable ORV trail/route/area system, enforcing ORV laws, restoring ORV damage to public lands and to maintaining the ORV trail/route/area system. Beyond the ORV program itself, it is part of the range of multiple uses/outcome s

provided by Michigan's state forest system as well as their sister national forests in Michigan. These outputs include wood, outdoor recreation, environmental quality, energy resources and habitat for a myriad of plants and animals.

- b. **Fiscal** impact is likely to be positive once responsibilities are clearly outlined and agreed upon.
2. **Investigate ways to streamline grant processes to seek efficiencies and encourage additional cooperators.**
 - a. **Rationale** is that motorized trail programs (ORV and snowmobile) are unique grant programs for the state of Michigan in that most of the grant money is targeted to operations, not capital improvements (which typifies programs such as the Michigan Natural Resources Trust Fund). Because of this, performance periods are shorter, the need for cooperators is significant and the loss of a season or a portion of a season to recreational use is a permanent loss that cannot be "made up" to users (who fully fund the program) in a subsequent year. The need to streamline is highlighted by many current and potential grant recipients (maintenance, enforcement or restoration) often lacking professional staff to meet state accountability requirements. The alternative of the DNR performing the functions of the grant recipients is not viable for most functions due to limited DNR personnel. Another option to investigate in this process is to examine the costs and benefits of using for profit contractors for trail maintenance and environmental restoration.
 - b. **Fiscal** impact is likely to be positive if grant funds can be efficiently disbursed and used. This may encourage greater interest in grant sponsor participation as many county sheriffs noted in their response to a survey used in this planning process about their participation in enforcement grants and other matters.

Damage Restoration

1. **The DNR needs to lead a more conscious and successful effort to clearly identify, document and regularly monitor ORV damage to public lands.**
 - a. **Rationale** is that the DNR alone cannot fully assess ORV damage to public lands, yet they are the responsible manager. What is proposed is two pronged. First, the current Operations Inventory is primarily conducted during months of snow cover. While excellent for assessing forest vegetation, it is lacking in its ability to assess the presence and condition of many resources and facilities that involve many aspects of forest recreation, including ORV damage away from the designated ORV trail system. Broadening the operations inventory concept to focus on a full land management inventory would be most useful. During compartment review **all** aspects of land management (vegetation, recreation, environmental concerns such as ORV damage, wildlife, etc.) need to be considered.
 - b. Second, partners are needed to provide the DNR additional "eyes and ears" regarding locating ORV damage to public lands. Key partners will include ORV grant sponsors for trail maintenance, environmental damage restoration and law enforcement. Also, Adopt-a-Forest organizations and

other civic and conservation organizations can be valued partners. The DNR will need to design a common reporting framework available through the DNR website that can receive electronic communication providing location (preferably GPS coordinates) and pictures if possible. This list can supplement that provided by the DNR through its more thorough Operations Inventory.

- c. Further, in response to a request to FMFM district recreation specialists in the NLP, FMFM personnel and conservation officers submitted photos of ORV damage from many counties with specific site locations. This is disconcerting, as relatively few restoration grants requests have been requested by the DNR, even though there is clear documentation of ORV damage to public lands.
- d. The current forest certification review, with a strong focus on implementing best management practices, is likely to mandate more effective and thorough assessment of forest lands. As a result of their site visit, evaluators specifically noted unrestored ORV damage was a major problem.
- e. **Fiscal** implications are substantial. Initially, significant effort may be needed to document the locations of all known damage and set priorities for restoration. In addition, broadening operations inventory in an on-going time frame will require a more thorough approach. This is likely to disclose additional sites of ORV damage to public lands. However, this approach will more successfully meet the DNR's mandate to protect the resources of the state.

2. The DNR needs to lead efforts to more efficiently and effectively restore damage on public lands once damage is identified. This may involve for profit or non-profit contractors with technical knowledge and certification and the use of proven models/techniques from agricultural erosion control and wildlife habitat restoration. These efforts should be led at the district level by DNR FMFM recreation specialists including the responsibility to administer, implement and monitor restoration grant activity.

- a. **Rationale** is that there is strong support for a healthy environment among organized ORV users, the general public, the DNR and many specific interest groups focused on natural resources. There is also strong support for the DNR's ORV damage restoration priorities: 1. reduce or eliminate erosion into any body of water; 2. restore damage in designated roadless area, state natural river corridor or federal wild and scenic river corridor; 3. restore damage to aesthetically sensitive areas. The forest certification process will also mandate the implementation of best management practices including restoration of erosion sites impacting surface waters.
- b. However, universally, active non-profit and governmental ORV damage restoration cooperators spoke negatively of what they considered excessive "red tape" in engineering, bidding and implementing restoration projects. Conversely, DNR field managers provided alternative cases of bypassing restoration grants in favor of using other more effective and efficient

methods to block access by illegal users and restore vegetation to eroded sites. These methods included the timber sale process.

- c. Approximately \$2.4 has been allocated for ORV damage site restoration in the past 14 years (1991-2004). There is no firm figure on the acreage restored. However, based on damage photographs submitted by DNR employees during this planning process and by the recent forest certification visit noting the prevalence and visibility of ORV damage sites on state forest lands, there is still considerable work to be done regarding ORV damage restoration at priority sites (e.g. those sites adjacent to surface waters).
- d. The three greatest challenges cited by cooperators and DNR field personnel in ORV damage restoration were the level of engineering required to accomplish basic erosion control, the complexity of soil and sedimentation control training (and accompanying permit requirements and engineering requirements) and state contracting requirements mandating multiple bidders to compete for minor contracts. In summary, the result is that the work isn't getting done and interest in competing for and accomplishing restorations through the ORV grant process appears to be declining. The environment suffers and legal ORV riders get a bad name even though they have paid to have the damage of illegal riders restored. Other approaches as discussed above are available and need to be investigated.
- e. **Fiscal** implications are that a shift to a more partner and field oriented approach and examination and adoption where feasible of other DNR utilized environmental restoration partnerships (e.g. those for wildlife habitat) may save considerable money and better safeguard the environment, resulting in best management practices being implemented on more state forest acres.

Law Enforcement

1. **Strengthen ORV enforcement through greater participation by conservation officers, county sheriffs, Forest Service officers, state park officers and forest officers.** Specific suggestions to do this are bolded in a-e.
 - a. **ORV enforcement should be viewed as a regular part of conservation enforcement and the ORV program should be charged straight time.** Conservation officers provide exceptionally well trained, dedicated and professional law enforcement officers. They have a myriad of duties ranging from enforcing fish and game laws, enforcing state land use laws and rules, enforcing environmental laws, enforcing state recreation laws, cooperating with local law enforcement and more recently involvement in homeland security. With less than 200 officers in the field, devoting significant time to ORV enforcement has been challenging and has often been done on an overtime basis, resulting in significant expense per ORV enforcement hour. A number of approaches are possible considering the limited officer hours available. For example, a few conservation officers may work solely on motorized trail enforcement (ORV and snowmobile

with each program paying its commensurate share). Another approach may be to provide a set amount of money equating to a set number of officer hours to be deployed as needed on a situational basis for ORV patrol. Either way, Michigan's conservation officers are the cornerstone of a total ORV enforcement effort to enhance rider safety and to protect Michigan natural resources

- b. **DNR should consider increasing ORV funding to county sheriffs to provide additional patrol hours and acquire appropriate ORV enforcement patrol equipment.** County sheriffs are also vital to ORV enforcement. In 2003, a total of 22 counties received ORV enforcement grants. In response to a statewide survey, 16 of the counties involved in enforcement responded. They were involved in ORV enforcement primarily to protect public safety, respond to citizen complaints/concerns especially regarding trespass, cope with increased ORV use in their county and better educate youth regarding ORV safety. They reported 77% of their patrol time was spent on trails and 23% at trailheads. The priority violations they targeted were operation under the influence of drugs/alcohol, operation by a non-certified youth without adult supervision, trespass on private lands, operation on public lands/roadways where prohibited and lack of an approved helmet. Key concerns expressed by counties were the inability to fully fund personnel expenditures and the lack of grant funds for ORV equipment. Table 2 (page 14) notes that only about 70% of the grant funds authorized to counties were actually paid out in FY 2002-03 and 2003-04. It is likely additional northern Michigan counties would participate in ORV enforcement if funds were made available to purchase equipment and there was authorization for officers similar to marine deputies to enforce selected ORV regulations. This authorization of such deputies would require legislation, just as was recently done regarding snowmobile enforcement in Michigan. Such less than fully MCOLES certified officers may be especially valuable at trailheads, leaving on-trail enforcement to fully certified police officers, such as conservation officers and sheriff deputies.
- c. **The USDA Forest Service should be eligible to receive ORV enforcement grants to pay for officer hours spent in ORV enforcement.** At this time, the Forest Service is currently ineligible to receive enforcement grants, while at the same time they are eligible to receive trail maintenance and environmental damage restoration grants. Their record with maintenance and restoration grants to date has been highly productive. Considering that the national forests are the second largest public land base in Michigan (2.7 million acres), that they provide 14% of the designated ORV trail system, that the amount and proportion of the designated ORV system on Forest Service land is likely to increase and that they have profession law enforcement personnel, it is important to get a significant enforcement contribution from the Forest Service. MCL Section 324.1119 should be amended to allow reimbursement of Forest

Service ORV enforcement efforts in a manner similar to that which already supports county sheriff and DNR ORV enforcement efforts.

- d. **State park ORV enforcement at Silver Lake and any other Michigan state park designated in part or whole for ORV use should be eligible for state ORV law enforcement grants.** Currently Silver Lake State Park is the only state park with some park lands open to ORV use. It is an exceptionally important area for those who have full size ORVs (four wheel drive trucks, dune buggies, jeeps, etc.) as well as being used by ATV and cycle riders. In addition, sales of ORV licenses to Silver Lake users number approximately 20,000 annually. Enforcement is critical in this relatively small ORV area (less than 25% the size of the St. Helen's Motor Sport Area in Roscommon County on the AuSable State Forest) with some of the highest densities of ORV use in the state. It is appropriate to fund these enforcement efforts through ORV enforcement grant funds. In addition, if any other state park or recreation areas provide ORV use, they should also be available for ORV enforcement grant funding.
 - e. **Forest officers should be used as ORV enforcement personnel focusing on state forest ORV trailheads with a primary mission of providing safety checks with ORV riders pre and post ride and maintaining law abiding atmosphere at ORV trailheads.** Forest officers (a relatively new classification of DNR FMFM employee) are trained and certified to enforce a limited set of state forest rules, including those involving recreation and land use. Their training is the same as state park officers. Key trailhead enforcement activities would be equipment, and safety checks, ORV licensing, ORV youth certification, maintaining accurate on-site information and being a public information source regarding ORV rules and opportunities.
 - f. **Rationale** is that a more coordinated team approach is necessary to provide an effective and visible enforcement presence. No one entity has sufficient personnel or financial resources to do the job alone. However, substantial resources are provided by ORV users through annual licensing and need to be distributed to in a manner that promotes a team approach and most effectively uses each law enforcement resource.
 - g. **Fiscal** implications are that approaches a-e would provide more value for the funds currently allocated to enforcement.
2. **ORV certification requirements for youth riding ORVs (MCL 324.81129) should be enforced statewide once ORV safety education classes are available in the majority of Michigan counties (42 or more).**
 - a. See ORV safety education for **rationale**.
 - b. **Fiscal** implications should be minimal as this can be done as part of the suite of laws enforced under ORV patrol.

Safety Education

1. **ORV safety education should follow a model similar to marine safety education, with county sheriffs and other certified instructors providing**

ORV safety training access in every county through classroom education. The focus should be on ORV safety and ORV laws and regulations using a standardized state curriculum and a standardized, proctored written safety education test. Where possible, beyond classroom instruction by county sheriff personnel and other certified instructors, ORV safety instruction should provide for optional ‘hands-on’ training by willing certified instructors to complement the mandatory classroom safety and law training and the written certification exam. An optional driving test designed to test the student’s driving competency should be available through willing certified instructors. Agency, educational and non-profit organizations conducting an approved course should be able to apply to the DNR for a grant from the ORV Safety Education Fund for costs associated with conducting a course.

- a. **Rationale** is that the loss of life and health reported by the US Consumer Products Safety Commission (2003) and the Michigan State Police Office of Highway Safety Planning (2004) are unacceptably high, not to mention significant property loss from accidents. Data from the 1998-99 state wide survey of ORV licensees (Nelson et al. 2000) suggests that only 1/3 of those ages 12-15 riding DNR licensed ORVs had completed an ORV safety course and only 1/6 of those ages 10-11 riding a DNR licensed ORV had completed an ORV safety course. This has led the DNR in the past to *not* enforce ORV safety certification requirements for youth. Conversely, similar requirements *are* enforced for hunting (hunter safety taught primarily by trained citizen volunteers), snowmobiling (snowmobile safety taught primarily through county sheriffs) and power watercraft (marine safety taught primarily through county sheriffs). Similar full coverage of youth safety education and subsequent enforcement is now needed in the Michigan ORV program. A majority (63%) of county sheriffs responding to a statewide survey would be interested in offering such an ORV safety course. Completion of the optional “hands-on” class and passing a driving competency test may have additional positive implications related to ORV licensee insurance costs, if such additional instruction and certification is effective in further reducing rider accidents and fatalities.
- b. **Fiscal** implications are that more classes will need to be held to meet the potential demand for ORV safety instruction and certification in a classroom setting. It is estimated that there is a need to certify about 8,000 youth annually, which is almost three times the approximately 3,000 annually certified over the past decade. With an annual revenue stream of \$175,000 (\$1 per ORV license annually dedicated to education) and the potential of 8,000 students annually, this provides slightly less than \$22 per student, not counting costs to administer such a program. It is appropriate that some portion of ORV safety education money be available to support optional “hands-on” instruction and driving competency testing, including that provided by non-profit organizations. In total, this two step system of education should be more cost effective on

a per student basis with its mandatory approach on classroom education, with a lower cost per pupil due to limited liability (not mandated to ride an ORV during class thus limiting instructor liability), the distribution of instructors across the state through the county sheriff network and the excellent complementary access many county sheriff departments already have to K-12 schools and other classroom venues through marine safety education.

2. **ORV safety education should use a graduated age system where all new ORV licensees should be mandated to complete an ORV safety training course if born after December 31, 1988.**
 - a. **Rational** is that the 1998-99 ORV licensee study (Nelson et al. 2000) found that many ORV riders, especially those who license ATVs, did not begin riding ORVs until adulthood. This group of riders closely resembles new hunters who begin as adults. It is important that they are familiar with ORV laws and regulations, as well as safe operating procedures for ORVs. However, the capacity to immediately administer ORV safety training to new ORV operators of all ages does not exist. This graduate approach is similar to the way hunter safety mandates that all new hunters complete a hunter safety training course if born after December 31, 1977.
 - b. **Fiscal** implications are likely to be moderate. It is estimated that approximately 10% of hunter safety training students are above the age of 15. This proportion is also similar for marine safety as those over 15 take the course to gain a reduction in liability insurance on personal watercraft policies. These proportions may be similar for new ORV riders/licensees. The educational load will also grow gradually if the baseline date is set at December 31, 1988.
3. **DNR Law Enforcement Division should implement a comprehensive ORV fatal accident tracking system that operates in a manner similar to the system DNR now uses to track snowmobile fatalities.**
 - a. **Rationale** is that this would provide accurate information to assess the rate of ORV fatalities in comparison to safety education efforts, the number of annual ORV licenses, the number of ORV days, location/situation of fatal accidents, etc. This would facilitate targeting educational safety messages to situations of greatest danger to riders. It would also help answer questions about the relative risk of riding in various situations.
 - b. **Fiscal** implications are moderately significant due to additional accident investigation, developing a reporting format to meet objectives beyond typical traffic reporting and more data entry. However, the benefit of accurate information that can enhance rider safety in the long run is more valuable.
4. **Once the DNR implements a comprehensive ORV safety education and training program with a standardized curriculum, curricular materials should available on the internet at the DNR's website.**
 - a. **Rationale** is that this would provide round the clock access for virtually any Michiganian or visitor to clearly understand ORV law and regulations

as well as safe riding procedures. This may also encourage adults who are new riders to learn about ORV laws and safety, even when not required to by law.

- b. **Fiscal** implications are minimal.

Licensing

1. **ORV licensing should be done solely through the electronic license system, providing accurate and timely data about ORV licensees and clear information about the specific vehicle being licensed to a distinct individual. This should include the driver's license number and address of the licensee and the type of ORV.**
 - a. **Rationale** is that this will provide point of sale data entry capture to assist managers to rapidly detect trends in the types of ORVs being licensed for use, the proportion of new licensees versus on-going licensees, etc. In addition, it will be a valuable law enforcement data base to protect property (ORVs) and to establish the identity of the licensee of the ORV in question. This is a significant improvement compared to the current titling of ORVs by the Secretary of State. It is not possible from those records to determine which or how many motorcycles or large four wheel drive vehicles are used on the designated ORV system, or in the case of large vehicles, on the designated scramble area system. Currently more than 70% of annual ORV license sales are through the electronic licensing system. Of the remaining licenses done with "paper" sales, more than half are sold by one dealer, the Michigan DNR Parks and Recreation Division at Silver Lake State Park. Just adding one licensing terminal at Silver Lake State Park would appear to work well with the voucher system in place and provide the data needed to convert half the current "paper" license purchases to the electronic system.
 - b. **Fiscal** implications should be minimal. This will require one question (What type of ORV is being licensed? Is it a motorcycle, ATV, full size truck/SUV or other such as dune buggy, etc.) be asked by license agents. The implications are very positive however as this will eliminate a significant amount of paper records currently generated by license sales outside of the electronic licensing system and will provide accurate, timely information to program managers on who has one or more licensed ORVs and the number and type of ORVs licensed . Fiscal implications to those who currently sell ORV licenses by other than the electronic licensing system will need to invest in the system to continue license sales.
2. **ORV license dealers shall provide a copy of the ORV laws and a copy of ORV safety information to each ORV licensee annually upon their purchase of an ORV license.**
 - a. **Rationale** is that this is an effective and efficient way to communicate with all ORV licensees annually in a manner similar to that done with hunters and anglers through the annual licensing process, provided the information is physically distributed by the license agent.

- b. Fiscal** implications should be slight for the DNR as it may necessitate the printing of additional ORV safety and regulatory handouts. Fiscal implications to license dealers should be negligible.

Acknowledgements

The author would like to acknowledge the assistance of Robin McCoy, Graduate Student in the Department of Community, Agriculture, Recreation and Resource Studies (CARRS) at MSU for her work in data entry and analysis as well as Jennifer Parks, former graduate student in Park, Recreation and Tourism Resources at MSU. Student workers Dana Stuckey and Shannon Proctor from the MSU CARRS department assisted in transcribing the bullet points from the regional public meetings. From the Michigan DNR, Steve Kubisiak and Jim Radabaugh, Forest, Mineral and Fire Management Division; Lt. Creig Grey, Laura Purol and Lt. Walt Mikula, Law Enforcement Division; Sharon Maynard, Maureen Houghton and Jamie Selden, Office of Grants, Contracts and Customer Systems; and Pete LunBorg, Park and Recreation Division all provided valuable data and insight. Dick Ranney, Chair of the ORV Advisory Board was most gracious in providing time on the Board's schedule for presentations and for assisting with the regional public information meetings. Finally to Bob Walker, OHV program coordinator for the State of Montana, for national data on OHV education and certification programs and requirements.

Literature Cited

- Alexander, S. and Jansen, G. 1977. Off-road vehicles: gasoline consumption and patterns of use. Office of Surveys and Statistics, Michigan Department of Natural Resources, Lansing, Michigan.
- Lynch, J. and Nelson, C. 1997. ORV Trail and Route Assessment. Michigan Department of Natural Resources, Lansing, Michigan
- Michigan DNR. 1979. ORV plan (Appendix A Item 18 Michigan State Comprehensive Recreation Plan). Michigan Department of Natural Resources, Lansing, Michigan
- Michigan DNR. 1984. Sign Manual: Department of Natural Resources. Michigan Department of Natural Resources, Lansing, Michigan
- Michigan DNR. 2003. 2003-2007 Michigan Comprehensive Outdoor Recreation Plan. Michigan Department of Natural Resources, Lansing, Michigan.
- Michigan DNR. 2005. 2006 Off-road vehicle (ORV) trail maintenance grant application information. IC 3600. Michigan Department of Natural Resources, Lansing, Michigan

Michigan DNR. 2003. Off-road vehicle Trail Improvement Fund procedures manual. IC 1990. Michigan Department of Natural Resources, Lansing, Michigan

Michigan DNR. 2005. Off-road vehicle (ORV) trail and route maintenance handbook. IC 1991. Michigan Department of Natural Resources, Lansing, Michigan

Michigan Office of Highway Safety Planning. 2004. 2003 Michigan traffic crash facts. Michigan State Police, Lansing, Michigan

Nelson, C. 1989. Registered Michigan off-road vehicle use and users. Department of Park and Recreation Resources, Michigan State University, East Lansing, Michigan.

Nelson, C., Lynch, J. and Stynes, D. 2000. Michigan licensed off-road vehicle use and users: 1998-99. Department of Park, Recreation and Tourism Resources, Michigan State University, East Lansing, Michigan

Nelson, C. and Lynch, J. 2001. Trends in off-highway vehicle (OHV) use, users, regulations and trails in Michigan: 1975-2000. The 5th Outdoor Recreation and Tourism Trends Symposium: 23-29. Department of Park, Recreation and Tourism Resources, Michigan State University, East Lansing, Michigan

Nelson, C. and Lynch, J. 2002. AuSable Pilot Off-Road Vehicle Project Evaluation. Department of Park, Recreation and Tourism Resources, Michigan State University, East Lansing, Michigan

US Bureau of Labor Statistics. 2005. [www.ftp://ftp.bls.gov/pub/special.requests/cpi](http://ftp.bls.gov/pub/special.requests/cpi)

US Consumer Products Safety Commission 2003. 2002 Annual Report of ATV Deaths and Injuries. US Consumer Products Safety Commission, Washington, DC

Appendix A – Survey Instruments Used in ORV Plan Development
ORV TRAILS AND ROUTES--ASSESSMENT FORM

Directions: Please fill out the following form for each ORV Trail and Route based on your most current evaluation and/or Trail Maintenance and Safety Inspection Reports. When information is unknown, make estimations. Use a (N/A) for "Not Applicable." Also, provide a hard copy of the trail map with suggestions for trailheads, notations about trail/route segments with problems such as water, brushing needed, whoop outs, etc. Add any comments or clarifications as needed in the margins or on the back of the sheets.

Trail Name: _____ Date: _____

Evaluator: _____

Year of most recent Trail Maintenance & Safety Inspection Report used in your response _____

List FMFM Management Units trail/route passes through and the approx. % of trail in each unit.

Unit Name _____ % Trail in Unit ____%;
 TOTAL 100%

Trailhead

1. List all ORV trailhead locations (shown on map)

Trailhead Location (County, Twp., Range, Sec.)	Designated Yes or No (circle)	Access road(s) # or name & manager (county, FMFM, MDOT, FS)	Approx. parking capacity (w/trailers)	List all amenities (trash cans, toilet, bulletin boards, etc.) found at the trailhead
1	Yes or No			
2	Yes or No			
3	Yes or No			
4	Yes or No			
5	Yes or No			
6	Yes or No			

2. Using the trailhead number from above table, please provide any recommendations for renovation if needed. Also, please note any locations where a new trailhead is needed and currently not provided and mark on accompanying map with the word "NEW TH".

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

New Trailhead Needed at: _____

New Trailhead Needed at: _____

Designated SF Pathways	# _____
Designated NF Non-Motorized Trails	# _____
State forest roads	# _____
National forest roads	# _____
Private roads	# _____
All other roads	# _____
Total Number of Trail Crossings	# _____

12. Does the trail map need any revisions or corrections? Yes-

Explain/illustrate any needed revisions _____

Overall Trail and Treadway Condition:

13. Overall for the Trail, which **ONE** of the three ratings best describes its current condition?

? **Good** Trail complies with ORV Maintenance Specifications over more than 95 % of the trail mileage, meets users needs, and conditions are sufficient to safeguard users and the environment. Only minor improvement needed.

List Problems: _____

? **Fair** Trail complies with ORV Maintenance Specs. from 75%-95% of the trail mileage, generally meets user needs and conditions generally safeguard users and environment. Moderate improvement needed.

List Problems: _____

? **Poor** Trail complies with ORV Maintenance Specs. on less than 75% of the trail mileage, fails to meet user needs, and conditions do not safeguard users and the environment. Major restoration and repair necessary.

List Problems: _____

Trail Hazards

Wet Areas (Mark areas needing attention in **BLUE** and approximate length on map)

14. Total # of wet areas found on the trail # _____ Total approx. length (miles) _____

15. How many of these areas require rerouting or other treatment?
Total approx. length (miles) _____

Side Slope and Hills (Mark areas needing attention in **RED** and approximate length on map)

16. Total # of side slopes & hills along the trail # _____ Total approx. length(miles) _____

Provide any additional comments below.

COUNTY ROAD COMMISSION MANAGER ORV QUESTIONNAIRE

1. What county do you represent? _____

2. Please check (v) the ONE statement that best describes your county's current policy about ORVs that are NOT licensed by the Michigan Secretary of State using county road shoulders?

My county allows ORVs to ride on the shoulder of all county roads (*please enclose copy of ordinance permitting such*)

Are the county roads signed for this use? Yes No

My county allows ORVs to ride on the shoulder of some county roads that are clearly signed and designated for that purpose (*please enclose copy of ordinance*)

Are the county roads open to ORV use signed for this use? Yes No

My county does not allow ORVs to ride on the shoulder of any county roads

3. Please describe the rationale for this policy checked in Question 2. _____

4. Is the Road Commission significantly interested in changing current policy? Yes No
If yes, what change is the Road Commission considering? _____

5. Please describe the experience in your county over the past 10 years concerning ORVs not licensed by the Secretary of State and county roads in regards to:

Citizen comments about **illegal** ORV use of county road shoulders _____

Citizen comments about **legal** ORV use of county road shoulders _____

Citizen comments about **lack of legal** ORV access to county road shoulders _____

Accidents/fatalities involving ORVs on county roads/road shoulders _____

Citations written by county officers for illegal ORV use on county roads/road shoulders

6. In the northern Lower Peninsula, the Michigan Cross Country Cycle Trail (MCCCT) connects a series of ORV loop trails. The loops are open to DNR licensed ORVs, whether they are street legal (Secretary of State licensed) or not. However, in its current state, the MCCCT connectors between the loops often use county roads or state highways only open to street legal vehicles. In a few locations, county road commissions have designated specific county road rights of way for use by DNR licensed ORVs that are not street legal to connect loops. In other areas, the DNR has sought to acquire corridors for state ownership to connect trail loops and to facilitate other trail activities such as snowmobiling. Please rate your support or opposition concerning each of the following options by checking (v) your choice and explaining your rating.

Alternatives	Strongly support	Support	Oppose	Strongly oppose	Not sure
Reroute the MCCCT connections onto existing or newly purchased state/national forest trails/roads designated open to all DNR licensed ORVs					
Why this rating?					
Gain permission for non-street legal ORVs to use county road rights-of-way (shoulder) where no public trail alternatives are available for MCCCT re-routes					
Why this rating?					
Eliminate MCCCT connections that are now illegal for non-street legal ORVs					
Why this rating?					

If you have any other comments about the Michigan ORV Program, please write them below or on an attached sheet. Thanks for your assistance.

ORV ENFORCEMENT AND SAFETY SHERIFF QUESTIONNAIRE

1. What county do you represent? _____

2. If funds were available to your county (regardless of whether it did or did not have designated ORV trails) through the Michigan Off-Road Vehicle/All Terrain Vehicle Safety Education Program (which provides state reimbursement of up to \$20 per student) to offer an ORV safety instruction course on a model similar to the marine safety program (classroom instruction using certified statewide curriculum + standardized statewide test proctored by sheriff personnel), would your county be interested in offering such a course? ?Yes ?No

3. Did your county participate in the Michigan ORV Enforcement Grant Program with the Michigan Department of Natural Resources in 2003? ?Yes ? No

If YES, what is the ONE most important reason you participate? _____

 _____ (Now please continue to Question 4)

If NO, what is the ONE most important reason you do not participate? _____

 Then what would encourage your county to participate in ORV enforcement in the future?

(Thanks for your response. If your county was not in the program in 2003 you are done. Please mail the questionnaire back in the postage paid envelope).

ORV Patrol

4. What was the 2003 patrol season for ORV patrol in your county?

Beginning date _____, 2003 Ending date _____, 2003

Please provide a list of the designated ORV trails, routes and motor sports areas patrolled in your county during 2003. If one was patrolled on average two or more times per week for the patrol season please list it under **frequent**, if less than two times per week but was still patrolled to some extent, list it under **occasional**. If you need more room than allowed, please use an additional sheet of paper.

Trail/Area Frequently Patrolled (2 or more times/week)	Trail/Area Occasionally Patrolled (less than 2 times/week)

5. Which trail/area presented the greatest patrol challenges? _____

5b. Please explain those challenges and what was done to meet them. How effective were you in your efforts? How do you measure effectiveness?

6. Please rate seriousness of each ORV law violation on a scale of 1 – 5 where 5 is extremely serious to 1, which is minimally serious, by circling your rating for each violation.

Violation	Min.			Ext.	
	1	2	3	4	5
Exceed ORV sound limits	1	2	3	4	5
No spark arrestor	1	2	3	4	5
Unlicensed ORV	1	2	3	4	5
Non-certified youth operating without adult supervision	1	2	3	4	5
Operate without Secretary of State registration on federal/state/county roadway requiring such registration	1	2	3	4	5
Operate where prohibited (e.g. state lands not open to ORV use, non-motorized trails, wetlands, etc.)	1	2	3	4	5
No helmet	1	2	3	4	5
No eye protection	1	2	3	4	5
Operating under the influence of alcohol or drugs	1	2	3	4	5
Trespass onto private property	1	2	3	4	5

6a. Of the violations listed above, which ONE is the most serious? _____

6b. What ONE action on the part of your county would be most effective at further reducing the incidence of this most serious violation?

7. Was your department involved in cooperative ORV patrol activities with other agencies such as other counties, volunteer clubs, the Michigan DNR or US Forest Service? ?Yes ?No
If YES, please list all cooperating agencies _____

How effective have cooperative patrol activities been? (check v one)
?Very effective ?Moderately Effective ?Minimally effective

If NO, what was the ONE most important reason your county didn't work with other entities on ORV enforcement?

8. What percentage of your county's patrol time was spent at _____ trailheads/parking areas
_____ on the trails/routes/areas
=100%

9. Overall, what could be done to improve ORV safety by your county through patrol?

10. Overall, what could be done to improve ORV safety through patrol by the state and federal government (if applicable) in your county?

ORV Safety Education

Recently administration of the ORV Safety Education program was transferred from the Michigan Department of Education back to the Michigan Department of Natural Resources where it had initially resided. The administrative rules regarding the curriculum of the educational program and who is certified to teach it have not changed with the change in administration.

11. Does your department offer a certified ORV safety course in your county? ?Yes ?No

If yes, what is the ONE most important reason you participate? _____

If no, what is the ONE most important reason you do not provide the course? _____

11a. Does your department offer (v those that apply): ?Certified marine safety course
?Certified snowmobile safety course
?Certified hunter safety course

12. Do you support putting ORV safety education materials used for teaching students on the internet so they are continuously available to the public? ?Yes ? No

If yes why? _____

If no why? _____

13. Would you support exploring the feasibility of using the internet as a teaching option to classroom instruction for ORV Safety Education, including providing materials to students and to responding to student questions/interactions, with examinations still administered on-site by a certified instructor? ?Yes ? No ?Not sure

13a. What is the ONE most important reason for your opinion? _____

14. What could your county do to improve ORV safety education? _____

15. What could be done to improve ORV safety in your county through education by the state and federal government?

ORV Enforcement and Safety Issues

16. In the northern Lower Peninsula, the Michigan Cross Country Cycle Trail (MCCCT) connects a series of ORV loop trails. The loops are open to DNR licensed ORVs, whether they are street legal (Secretary of State licensed) or not. However, in its current state, the MCCCT connectors between the loops often use county roads or state highways only open to street legal vehicles. In a few locations, county road commissions have designated specific county road rights of way for use by DNR licensed ORVs that are not street legal to connect loops. In other areas, the DNR has sought to acquire corridors for state ownership to connect trail loops and to facilitate other trail activities such as snowmobiling. Please rate your support or opposition concerning each of the following options by checking (v) your choice and explaining your rating.

Alternatives	Strongly support	Support	Oppose	Strongly oppose	Not sure
Reroute the MCCCT connections onto existing or newly purchased state/national forest trails/roads designated open to all DNR licensed ORVs					
Why this rating?					
Gain permission for non-street legal ORVs to use county road rights-of-way where no public trail alternatives are available for MCCCT re-routes					
Why this rating?					
Eliminate MCCCT connections that are now illegal for non-street legal ORVs					
Why this rating?					

17. If your department was able to increase its state ORV enforcement grant funding allocation by 10%, how would you use those additional funds to enhance ORV safety?

If you have any other comments about the Michigan ORV Program, please write them below.
 Thanks for your assistance.

State Off-Highway Vehicle (OHV)/Off-Road Vehicle (ORV) Coordinator Survey

1. What state do you represent? _____
2. What agency in your state has primary responsibility for OHV/ORV management?

-
3. Does your state have a state OHV/ORV plan? ? Yes ? No (Go to Q 4)
 If yes, in what year was the most recent version approved? _____
 If yes, is it posted on your state website? ? Yes ? No
 If yes, what is the website address? _____
If no, please mail a copy to Dr. Chuck Nelson, 131 Natural Resources Building, MSU, E. Lansing, MI 48824. Michigan is updating its 1979 plan.

OHV/ORV Safety Education

4. Does your state have a safety education program? ? Yes ? No (If no go to Q 11)
5. Is this safety education program mandatory for any group of people (e.g. age related, violation related, etc.)? ? Yes ? No
 If yes, for which group or groups? _____

-
6. Does your safety education program use a standardized course? ? Yes ? No
 If yes, what is the standardized course? _____
Please mail a copy to Dr. Chuck Nelson, 131 Natural Resources Building, MSU, E. Lansing, MI 48824.

7. What is the minimum number of education hours for student certification? _____#

8. Please complete the following table about your state's OHV/ORV safety education.

Year	# students enrolled	# students certified	Approx. % students certified over 17 years of age	# of certified instructors active
1994				
1995				
1996				
1997				
1998				
1999				
2000				
2001				
2002				
2003				

9. Are instructors volunteers or paid for teaching? Volunteers Paid Wages Both

If wages, is there a minimum or maximum allowable wage/hour? Yes No

Minimum/hour = \$_____ Maximum/hour = \$_____

If reimbursement, is there a minimum or maximum/student? Yes No

Minimum/student=\$_____ Maximum/student=\$_____

10. What are the education program components? Who accomplishes/administers them?

Program Components	None (N), Optional(O) or Mandatory (M)	If O or M, who accomplishes? Please list (e.g. Volunteers)	If O or M, who administers? Please list (e.g. DNR Law Enforcement Division)
Instructor training			
Instructor certification			
Classroom instruction focused on applicable laws			
Classroom instruction focused on safety			
Standardized written test for student certification			
“Hands-on” riding education			
“Hands-on” riding test for student certification			

Public OHV/ORV Riding Opportunities and Program

11. Are there public land OHV/ORV riding opportunities in your state? Yes No

If yes, please list the approx. % of total riding opportunities provided by each:

Local government _____%
 State government _____%
 Federal government _____%
 Total _____100_____%

12. If yes, please check (v) the **ONE** statement that best characterizes public land riding opportunities in your state:

Closed unless posted open _____
 Open unless posted closed _____

13. Is there a designated public trail/area system? ? Yes ? No (If No go to Q 15)

If yes, how many miles are: # _____ Motorcycle only trail (Less than 50" max.)
 # _____ ATV & Motorcycle trail (50" max.)
 # _____ Cycle, ATV & Full size (Usable by truck, etc.)
 # _____ Total miles (even if can't breakdown as above)

13a. Are there public, designated motor sports/scramble areas? ? Yes ? No

If yes, how many are there? # _____ How many acres do they encompass? # _____

14. Who physically maintains the designated system? Please check (v) all that apply.

_____ Non-profit org./volunteers _____ Federal agency(s)
 _____ For-profit contractors _____ Local agency(s)
 _____ State agency(s) _____ Others (list _____)

15. Is there an OHV/ORV damage restoration program for public lands? ? Yes ? No

If yes, who physically accomplishes the damage restoration? Please check (v) all that apply.

_____ Non-profit org./volunteers _____ Federal agency(s)
 _____ For-profit contractors _____ Local agency(s)
 _____ State agency(s) _____ Others (list _____)

OHV/ORV Registration/Licensing, Fatal Accidents and Law Enforcement Trends

16. Please complete the table about registration, fatal accidents and enforcement in your state. Use N=None and NA=Not Available if appropriate

Year	# OHV/ORV Licenses/Registrations	# OHV/ORV Fatalities	# OHV/ORV Citations issued by state
1994			
1995			
1996			
1997			
1998			
1999			
2000			
2001			
2002			
2003			

17. Does your registration/licensing include non-residents riding in your state whose OHV/ORV may be registered or licensed in another state? ? Yes ? No ? No reg./lic.

18. Does your OHV/ORV registration/licensing allow you to distinguish (v those distinguishable) one type of registered OHV/ORV from another:

_____Motocross (non-street licensed) motorcycles _____ATVs
_____Dual purpose (street licensed) motorcycles _____ Street licensed truck/SUV

19. To the best of your knowledge, what is the most common OHV/ORV citation issued in your state?

20. Has your state compiled information on OHV/ORV fatalities? ? Yes ? No (If no Please check (v) all that apply. go to Q 21)

- _____ Location (e.g. on trail, on roadway, etc.)
- _____ Type and number of vehicle(s) involved (ATV, car, etc.)
- _____ Cause(s) of accident (e.g. excessive speed, etc.)
- _____ Demo graphic characteristics of victim(s) (e.g. gender, etc.)
- _____ Was anyone charged with a misdemeanor or felony for their role in the accident?

If there is a report available, is it posted on your state website? ? Yes ? No

If yes, what is the website address? _____

If it is not posted, please mail a copy to Dr. Chuck Nelson, 131 Natural Resources Building, MSU, E. Lansing, MI 48824. Currently, Michigan does not have OHV/ORV fatality statistics fully compiled but is in the process of doing so.

Conclusion

21. Has a statewide study of OHV/ORV use/users been done in your state? ? Yes ? No

If yes, is it posted on your state website? ? Yes ? No

If yes, what is the website address? _____

*If it is not posted, please mail a copy to Dr. Chuck Nelson, 131 Natural Resources Building, MSU, E. Lansing, MI 48824. MI has done 3 statewide studies in the past 27 years. Please see www.michigan.gov/dnr for (Nelson, et al. 2000). Click on recreation and camping then on ORV/ATV. For a 25-year analysis of trends, see Nelson, C. and Lynch, J. (2001). Trends in OHV Use, Users, Regulations and Trails in Michigan: 1975-2000. *in* Trends 2000: Shaping the Future 5th Outdoor Recreation and Trends Symposium, Dept. Park, Recreation and Tourism Resources, Michigan State University: East Lansing.*

If you have any additional comments, please provide them here or on another sheet.
Thanks.