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ALL-TERRAIN VEHICLES IN THE ADIRONDACKS

Issues and Options

By Leslie N. Karasin

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By Leslie N. Karasin



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TABLE OF CONTENTS

Acknowledgements	5
Acronyms	7
Introduction	9
ATV Use and Research Nationally	11
Status of ATV Use on Public Lands Nationally	11
The Environmental Impacts of ATVs	18
Safety Issues Associated With ATVs	24
Economic Aspects of ATV Use	25
Resources Available on ATVs	28
ATVs in New York State and the Adirondack Park	31
An Overview: ATVs in NY	31
Legal Issues	32
Illegal ATV Use on the Forest Preserve	37
ATV Users in New York and the Adirondacks	45
Illegal ATV Use on Private Land	48
Opportunities for Legal ATV Use	48
Envisioning the Future	53
Unit Management Planning	53
ATV Users as a Political Force	54
The Question of Expanding ATV Access	55
Communication and Management of ATV Issues	60
The Role of Education in the Future of ATV Issues	60
Management Options	63
Resources	65
WCS Working Paper Series	71

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ACRONYMS

ATV	All-Terrain Vehicle
BLM	Bureau of Land Management
DEC	New York Department of Environmental Conservation
DMV	Department of Motor Vehicles
ECL	Environmental Conservation Law
ECO	Environmental Conservation Officer
NFS	National Forest Service
NPS	National Park Service
NYSORVA	New York State Off-Highway Recreational Vehicle Association
OPRHP	New York Office of Parks, Recreation and Historic Preservation
OHV	Off-Highway Vehicle
ORV	Off-Road Vehicle
SLMP	State Land Master Plan
UMP	Unit Management Plan
V&T	Vehicle and Traffic (Law)

INTRODUCTION

Both nationwide and statewide in New York, all-terrain vehicle sales and registration figures have increased dramatically in recent years. Between 1992 and 1999, the all-terrain vehicle (ATV) industry reported sales increases of 12-23% annually (Hallinan 2000). Over the same period, ATV registration figures in New York state doubled. At more or less the same time, environmentalists and wilderness advocates were focusing their efforts to protect certain classes of federal lands from legal or illegal use by ATVs, while an increasing number of ATV advocates were making the case for ATV access to public lands. Although ATVs had been on the market for decades, this surge in popularity and polarization of issues has caused many land managers nationwide to feel the need to dramatically step up management efforts.

New York is no exception to this national pattern. Although the details vary, the general pattern here, as elsewhere, is the same: ATV ownership and use is growing, users are advocating more vociferously for ATV access to public lands, illegal use on both public and private land has escalated and caused concern to many, and environmental damage by ATVs on public lands has caught the attention of a growing number of concerned groups and individuals. ATVs have been described as a “multiplier of man”(Sheridan 1979) in terms of their environmental impacts on an area, and this multiplication of recreational impacts exacerbates ATV issues in New York, as elsewhere.

A few aspects of New York’s situation are unique. The Adirondack Park covers a fifth of the state’s area, six million out of the state’s 30 million acres. Within this region there is a diverse mixture of land uses and a patchwork of public and private lands. The hundred-year-old Forest Preserve, which currently consists of

ATV issues have escalated locally, and as a result there is a need for more informed public dialogue to consider possibilities for management strategies

approximately 2.72 million acres in the Adirondacks and another 270,000 in the Catskills, is protected as “forever wild” under Article XIV of the state constitution. This land, with its special legal protections and its proximity to private land and vibrant communities, is a remarkable resource and a huge responsibility for the people of New York. It is the specific focus of this report.

This report attempts to distill much of the situation and information available on ATVs both nationally and in New York, to serve as a resource for those interested in these issues. As mentioned above, ATV issues have escalated locally, and as a result there is a need for more informed public dialogue to consider possibilities for management strategies. Although we in the Adirondacks have certain challenges and opportunities not present elsewhere on these issues, there is a great deal that we can learn from the research, histories, and land management efforts of other areas. For this reason, a considerable amount of information is presented in the following pages on the issues of ATVs in a national perspective.

The report is broken down into several major sections. The first presents national research and land management strategies. This section includes general information on the environmental and economic impacts of ATVs as well as the efforts of people across the country to manage ATV use fairly and wisely. The second major section focuses on New York—particularly the Adirondacks—and presents the local legal issues, use situation, and particulars of management. The third section attempts to frame this issue in the context of possible future management opportunities. The final section, which is brief, lists some potential immediate management advances.

ATV USE AND RESEARCH NATIONALLY

Status of ATV Use on Public Lands Nationally

New York does not face questions associated with ATVs alone. Federal land (National Parks, Forests and Bureau of Land Management properties) and state land managers around the country have encountered the issue of off-road vehicles (ORVs).¹ Following is a summary of their responses to these questions. It is included to provide some perspective on how other agencies have regulated and managed for ATV use.

Federal Land

The management of off-road vehicles on federal lands was shaped in part by an Executive Order signed in 1972 by Richard Nixon and amended by Jimmy Carter in 1977. This Executive Order mandated federal agencies to manage the use of off-road vehicles on federal land to “protect the resources of those lands, to promote the safety of all users of those lands, and to minimize conflicts among the various users of those lands”(Nixon 1972). Further, the Executive Order required federal land management agencies to develop designations for areas as open or closed to ORVs, to ensure that all Wilderness and Primitive Areas were closed, and to immediately close areas that were suffering “considerable adverse effects” and keep them closed to ORVs “until such time as ... the measures have been implemented to prevent future recurrence” (Carter 1977). Signing an Executive Order, however, is far easier than implementing a designation policy, as the experiences of many federal agencies have borne out.

National Parks

Under the Executive Orders, National Parks bore a higher level of scrutiny for

allowance of ORVs than some other land management agencies. NPs were to prohibit ORV use in all areas of national parks unless there was an area where the agency was certain that ORV use would not “adversely affect their natural, aesthetic, or scenic values”(Nixon 1972). Under current federal law dictating the National Park Service’s designation of off-road motor vehicle routes, these routes and areas “may be designated only in national recreation areas, national seashores, national lakeshores and national preserves” and use of motor vehicles is prohibited on NPS land other than roads or routes specifically designated for ORV use(2001).

A survey of National Parks regarding ORV use was performed by the Bluewater Network, an environmental coalition. The group found that ORVs are used in 59 National Park Service units² (Bluewater Network 2002). This number represented 55% of the units included in the Bluewater survey. Of the units which have ORV use, 38 of them acknowledged serious natural resource damage as a result of ORV use. Forty park units reported high amounts of illegal use.

Although this report focuses exclusively on ATV access issues, it is appropriate to mention the current dispute over snowmobile access in National Parks, particularly Yellowstone. This has become such a contentious issue that is one of the pivotal environmental issues of the current administration. A multi-year environmental impact assessment resulted in a recommendation that snowmobiles be banned in the Park, but the Bush administration’s decision to lift that ban in the interest of fostering local revenue sources and public access has stirred national attention.

National Forests

The Forest Service does not have a uniform nationwide policy regarding the management of ATVs and other ORVs on national forest land. Decisions are made on a forest-by-forest basis and incorporated into each one’s Forest Plan. According to a coalition of groups that canvassed National Forests for their policies on ORVs, approximately 30 percent of the 155 national forests “follow a policy that areas are closed to off-road travel unless specifically signed open. Similarly, another 30 percent of National Forests follow the exact opposite policy. Few of the remaining Forests have a clear policy. Two Forests, Monongahela (WV) and Hoosier (IN) do not allow ORV use at all”(Wildlands Center for Preventing Roads 2001).

In the northeast, the White Mountain National Forest has an official policy of allowing summer ATV use only on designated trails. However, the Forest has no designated trails, amounting to a defacto ban on summer use. Winter use is restricted to trails that are designated for snow machines. Similarly, the Green Mountain National Forest prohibits ATV use on most trails. Usage is permitted on some roads, and there is limited ATV use on one demonstration trail in the southern part of the forest. Staff at the Forest report that there has been an increase in recent years in violations and ATV-related problems, and they are working to increase the amount of public education, signage and overall management (Kimball 2003).

Following are brief descriptions of the positions and experiences of a few National Forests.

Hoosier National Forest, Indiana

As mentioned above, Hoosier is one of the few National Forests in the country with an outright ban on all ORVs. This ban has not always been in place; in fact, in the early 1970's Hoosier was in the process of actively creating an extensive ORV trail system. A lawsuit filed by the Izaak Walton League, a fishing and conservation advocacy group, blocked the opening of the trail system. Then, in the mid-1980's, the Forest revisited the issue of ORV use and drafted Environmental Impact Statements and collected feedback from the community about potential ORV management schemes. The overwhelming public response was that the community favored an outright ban on ORV use in the Forest. This became the primary basis for the managers to adopt the ban. It was considered the wisest management scheme in part because the Forest was not contiguous, but consisted of a number of fragmented chunks of land. These smaller parcels made management and enforcement more difficult and increased the number of adjacent landowners concerned about noise or spillover use on their properties.(USDA Forest Service 1987) Today, Hoosier employees report some ORV enforcement problems, and some associated environmental damage, in part because of a limited enforcement staff. Trails, however, are clearly posted closed to motorized use with durable Carsonite signs that help to alleviate confusion and cut down on enforcement problems.(Wadzinski 2003)

Allegheny National Forest, Pennsylvania

Allegheny National Forest, in northwestern Pennsylvania, has had a managed ATV program since the mid-1970's. Forest Service staff at the Forest found that over time, ATV use outstripped their existing management, but ATV use was considered one of the legitimate recreation uses of the Forest in the Forest Plan. In response to this conflict, Forest Service employees made a conscious decision to better understand the resource issues of ATV use, the requirements for remediation of damaged areas, the trail construction and maintenance techniques that would ensure environmental protection, and the capital requirements of these programs.

Today, the Forest has a 108-mile designated ATV trail network that is almost completely separate from other uses, including snowmobile trails and non-motorized use areas. The established intensive use areas take up approximately 100,000 of the Forest's 500,000 acres. Forest Service staff emphasize that this network is intensively managed. They estimate its installation cost at over \$1 million (\$15,000 to \$30,000 per mile), using heavy machinery and researched trail construction techniques. Staff perform annual maintenance on the entire trail network, at a cost of \$1,000 per mile per year. They also have a monitoring system in place to regularly assess the network's environmental integrity and the efficacy of the existing management, and they perform preventive maintenance on trails as needed to avoid environmental damage. The staff includes a full-time position dedicated to managing motorized trails. Still, land managers at the Forest find that increasing use on the trail network has exceeded capacity, resulting in visible impacts. The Forest's emphasis on proper trail maintenance has made an expansion of the trail system unlikely, limiting the options for handling the upsurge in usage. Forest staff are attempting to obtain better usage figures in order to better manage

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maintenance. They are also in the process of implementing a fee system of seasonal permits, which, in addition to providing usage figures, will be a source of funding and a tool to limit use, if necessary, by limiting the number of permits sold.

Chattahoochee-Oconee National Forest, Georgia

This National Forest, in Georgia, has a 133-mile designated ATV trail network, but ATVs are not permitted elsewhere in the forest. When the forest plan was written in 1986, the Forest Service staff originally creating riding areas and permitted off-trail use within those designated areas, but off-trail usage and environmental damage patterns quickly proved unsustainable, and ATV usage was restricted to designated trails within the riding areas. Georgia Forestwatch, a local organization, recently undertook a study of illegal use within the forest, and found an estimated 500 miles of illegal trails. The study also documented the reasons that trailhead barriers were insufficient to block ATV access. Forest Service staff estimate the price of rehabilitating the illegal trails at over \$1 million.

Bureau of Land Management

The BLM provides stewardship for 264 million acres nationally. Individual BLM land parcels are designated as open to ORV use, closed to ORV use, or open to limited use, which involves restrictions on either the season, location, or type of use. The designation criteria are defined in the code of federal regulations Title 43, part 8340. According to the Bureau's figures, more than half of public lands under its stewardship have either closed or limited use designations (Bureau of Land Management 2001).

Recognizing that active management of ORV³ use on these lands had not kept pace with growing usage and associated issues, the BLM initiated a project to develop a strategy for ORV management. One component of this process was a public outreach effort and public comment period on a draft strategy. The final document, completed in January 2001, is entitled National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands. This strategy identified a number of flaws in the BLM's existing ORV management and objectives to help the Bureau improve these areas. Among the recommendations are: improved coordination and communication, both internally and externally, on ATV management; educational programs to promote a responsible-use ethic; analysis and augmentation of funding for ATV management; improved natural inventories and monitoring; improved law enforcement techniques; the creation of an ATV-management "toolbox" document; analysis of easement and acquisition requirements.

The strategy also recommended a more unified policy ban on cross-country ATV use in Wilderness Study Areas (WSAs). This ban does not prohibit access to all existing WSA trails and ways. Environmental groups were highly critical of the strategy process for not taking a firmer stand on keeping ATVs out of WSAs (2002h).

State Land in Other States

A comprehensive analysis of how the other 49 states handle the question of ORV use on state land is beyond the scope of this report. But a few examples of other states' approaches help to put New York's situation into context.

Pennsylvania

Pennsylvania's Department of Conservation and Natural Resources (DCNR) manages 188 miles of designated ATV trails on state forests. Concern about illegal use and illegally cut trails, however, has been high. There is a statewide advisory council on ATV use on state forest. In 2001, the state legislature made changes to state laws to give DCNR several tools to address illegal use and environmental damage, and also to facilitate the creation of private riding areas. The legal changes redefined ATV, required that all ATVs ridden off of the owner's property be registered with the DCNR, required that ATVs carry liability insurance, and gave DCNR the means to award grants to municipalities and for-profit or non-profit organizations for trail development and facilities on private lands. In the DCNR Press Release announcing the legal changes, DCNR secretary John Oliver said, "We believe that providing opportunities for ATV riding should not solely rest on the shoulders of the state. Providing financial assistance to help others create trails will take the pressure off forest lands, which seek to balance other recreational uses as well" (Pennsylvania Department of Conservation and Natural Resources 2001).

Vermont

ATVs are not allowed on any state lands in Vermont, and the Vermont Trail Riders' Association (VETRA) disbanded in 1999 due to a lack of state sponsorship of riding opportunities and a lack of member participation and board membership, according to the organization's website (Vermont Trail Riders' Association 2002).

New Hampshire

The New Hampshire Division of Parks and Recreation Bureau of Trails facilitates trail development on state, federal and private land. Through the Grant in Aid program, the Bureau of Trails makes funding from ATV registration fees available for trail construction and maintenance on private land, where local ATV clubs have found private landowners willing to open their property to ATV users. The clubs locate willing property owners and apply for funding. Approximately 500 miles of trails have been established in the state through this effort. There are also approximately 220 miles of trails open to ATVs on state land. For certain projects, Recreational Trail Program (gas tax) funds from the federal Transportation Equity Act are used. One project that this has funded has been an on-trail courtesy patrol manned by volunteers from local clubs, who wear official vests and maintain a presence on public trails.

New Jersey

ATVs are banned on all New Jersey state parks and forests, in accordance with the state administrative code. On October 4, 2002, the New Jersey Department

of Environmental Protection (DEP) released a policy directive clarifying the department's laws and policies concerning ORVs. The directive stipulates that the DEP will work in cooperation with a variety of stakeholders to establish legal riding areas that meet a number of criteria. These specifications for legal riding areas include: they will not be considered on current state parks or wildlife management areas; they shall not cause adverse impacts to the environment or natural resources; they shall not interfere with the enjoyment of other user groups or affected local communities; they shall not pose safety risks; and the plans shall contain adequate provisions for restoration necessitated by unanticipated natural resource damage. Despite these challenges, the department aims to have two legal riding areas opened by 2005.

The directive also includes information about penalties for illegal use. DEP personnel are directed to impose the maximum fines of \$1000 for illegal use on state parks, and \$200 for illegal use on wildlife management areas, which can be reduced only under specific circumstances.⁴ Violators in wildlife management areas can be fined for damage to state property, including the cost of restoring natural resource damage, and the department aims to establish a table for calculating the costs of damages to natural resources. Furthermore, the commissioner of the DEP and of the New Jersey DOT will work to enact legislation increasing these penalties, authorizing impoundment of ORVs, and establishing a comprehensive ORV registration system.

This DEP directive has generated concerned response from ORV users in New Jersey and adjoining states, and there have been discussions among users ranging from the formation of an ORV association to the purchase of land for ATV access.

Michigan

Michigan has different policies for ORV use on the Lower Peninsula than on the Upper Peninsula. On the Lower Peninsula, trails are closed to ORV use unless posted open. On the Upper Peninsula, use on unposted trails is permitted. The state has a 3,107 mile designated trail system for ORVs, of which 60% is open to ATVs (Nelson et al. 2000). 82% of the trail mileage is on state forest land, and all of it is in the northern 2/3 of the state. The state also has three ORV scramble areas, open areas for ORV use, on state land. Considering the extensive designated trail system, surprisingly few ATV owners reported using the system in a user survey performed by Michigan State faculty. Sixty percent of ORV-owners owning only ATVs reported that they rode exclusively on private land, and fewer than 20% of ATV-use days were on the designated trail system.

Maine

Maine has a fairly extensive system of trails open to ATVs, divided amongst state-funded trails on private land with landowners' authorization, some trails on state land, and some on large landowners' properties. But the state has also had issues with trespass and unauthorized use on private land, as well as ATV use on snowmobile trails without specific permission for ATV use. By state law, ATVs are prohibited on snowmobile trails without landowner permission. Yet the director of the Maine Snowmobile Association reports that, "We lose

(snowmobile) trail on a regular basis because of ATV abuse” (Meyers 2002).

The state has attempted to adopt legislation to deal with some of these challenges. One piece of legislation passed by the state legislature limits a landowner’s liability for people recreating or hunting on their property; another piece makes a recreationist, rather than the landowner, liable if he or she infracts state environmental laws on private land (State of Maine 2002). Meanwhile, interested parties are attempting to raise the bar on the procedures involved in gaining permission for motorized users to access private land.

Summary of National ORV Management Strategies

The experiences of federal and state land managers around the country indicate that these issues are national in scope, even if they are local in impact. Because of the diverse and extensive experiences that other land managers have in addressing the myriad issues associated with ORVs and ATVs, New Yorkers concerned about proper management of ATVs should draw on these examples and the accumulated knowledge of land managers in other states.

In 1979, the Council on Environmental Quality recognized the importance of addressing the issue of ORV use, and wrote a report summarizing related environmental, social and managerial issues (Sheridan 1979). The upper echelons of the federal government have done little more recently that is as comprehensive. The report concluded that land managers needed to make several steps to achieve more uniform, legally defensible and environmentally-sensitive policies and practices. The specific steps that the report recommended to agencies and land managers were:

- 1) Recognize magnitude of enforcement problem
- 2) Determine how public wants land used
- 3) Stiffen the federal land managers’ backbones
- 4) Separate motorized recreation from other uses
- 5) Monitor ORV effects
- 6) Develop facilities through Pittman-Robertson⁵ kind of approach
- 7) Reclaim ORV-damaged land

ATV Use On Private Land Nationally

There has been at least some effort nationally to provide ATV riding areas on private land. In some cases, states have provided funding or assistance towards this end (see Pennsylvania, above). An example that is touted as a leading private ATV recreation area is Hatfield McCoy, in southern West Virginia. Located mostly on corporate-owned property, the trail system is funded by user permits, which cost \$15 for a day of use (or \$25 or \$100 for an annual pass depending on whether the individual is in-state or out-of-state), and through state and federal funding; federal funds are from the gas tax revenues directed for trail construction through the Transportation Equity Act. The Hatfield McCoy trail system began as a 300 mile network, but the managers hope to expand it. In the first two years of operation, the system has seen 20,000 users, but the managers anticipate rapid growth as the program matures.

ATV User Demographics

For a number of reasons, it is useful to have an understanding of the demographics of ATV users. And it is important that these results be based on genuine research, rather than the expectations or assumptions of the general public. Several studies in other states have profiled the age, gender, and income of the average ATV user.

A report commissioned by the Michigan Department of Natural Resources on the economic benefits of ATVs also tabulated demographic data about ATV licensees, via a survey that was sent to thousands of households. The authors of the study classified ORV users according to which types of ORVs they owned; ATV owners fell into several categories, including ATV only, ATV and SUV, ATV and off-road motorcycle, etc. In the ATV-only category, the mean age of licensees was 47, 94% of the group were male, 42% of the group had at least one year of college education, and the median household income was \$40-60,000. These demographics are approximately equivalent to the other classes of ATV-owning ORVers. Generally, the ORV licensees profiled had higher education and income levels than the average Michiganiaan (Nelson et al. 2000).

Authors of demographics studies are not in complete agreement about the demographics of the “average ATV user,” but most studies indicate a strong majority of rural, male users. Other categories are not quite as clearly delineated. It may be more significant to note the similarities between the ATV user group and other user groups than to strain their differences. And as a relatively new recreation, ATVing is also subject to a shifting demographic.

The Environmental Impacts of ATVs

All forms of recreation have some effect on the local environment, but ATVs represent an extreme in the continuum of recreation use impacts. David Cole, a well-known recreation ecologist, summarizes this by saying, “For several reasons, the potential for off-road vehicles (among forms of recreational use) to cause substantial impact is particularly high” (Hammitt and Cole 1995). These reasons include the nature of the vehicle itself, and also the vehicles’ ability to reach remote areas in a relatively short time, to traverse rough or wooded terrain, and the tendency of some users to seek out steep and unstable slopes.

Many studies have documented specific environmental impacts of off-road vehicles. These studies have spanned a wide variety of types of impacts, including vehicles’ effects on soils, vegetation, wildlife, water quality, wetlands, and air quality. There is a separate, but related, field of evidence concerning noise pollution and motorized vehicles’ impacts on non-motorized backcountry users. This section will discuss the major impacts revealed in the literature.⁶

Compaction and Soil Erosion

Of the various environmental impacts of ATVs, none is as visible or as dramatic as the impact on soil. Beyond the visual effect of parallel tracks on a trail, through a field or through the woods, ATVs have serious consequences for erosion and soil compaction. Compaction is a primary mechanism of damage; it is the predictable compression that results from the force of a heavy vehicle on the ground’s surface. The force of the vehicle’s weight causes a reduction in the tiny air spaces between soil particles, and a resulting increase in soil bulk density, or

compaction. A second mechanism of soil damage is shear. Shear is the “slippage between strata or particles in planes parallel to the soil surface” which is caused by an ATV’s wheel slip (Wildlands Center for Preventing Roads 2001). And yet another impact, in some cases, is direct tilling of the soil and associated vegetation due to tire treads churning the soil.

Soil compaction (by ATVs or any other mechanism) has several logical and inevitable consequences. The most obvious is erosion; when water is less able to permeate the soil surface, it is more likely to run off, carrying with it soil particles. This process is aggravated by shear, which contributes considerably to the displacement of soil particles, making them more prone to erosion. In ATV tracks, this erosion often starts as parallel ruts and can, under some circumstances, develop to more serious gullies. This runoff, in turn, affects hydrology. The extent of erosion caused by ATVs is aggravated by the linear intrusion of their tracks; particularly when tracks are parallel to the slope, the effect on erosion is significant. The tracks intercept runoff and groundwater, diverting it into a channelized flow along the trail, with higher flow velocity and higher rate of scouring than a dispersed flow of water. An increase in soil bulk density also impedes plants’ root growth, lessens the soil’s water-holding capacity, and harms nutrient cycles and soil fertility.

The impact of an ATV on soils depends on soil type. Fine textured sandy and silty soils are the most prone to erosion due to their particle size, weak particle bonds and reduced internal drainage. Medium and coarse sandy soils with a deep depth to groundwater are less erodible (Grisi 2003). Furthermore, a number of other factors have a significant effect on the extent of ATV-caused damage; these factors include slope and hydrology. Wet and poorly drained soils are especially prone to damage. The National Forestry Manual rates soil criteria for the suitability of roads, and an area is rated as well suited for a road only if, in addition to other criteria, the depth to the water table is more than 60 cm. (Natural Resources Conservation Service 1998) The Manual also rates soil criteria for potential erosion hazard. The risk of erosion is ranked as slight, moderate, or severe, depending on the slope of the road and the physical characteristics of the soil. Steep slopes, fine soil particles, high levels of organic matter, and other specific soil characteristics all make soils more erodible.

Quantities of soil displaced by erosion can be considerable. In the Appalachians, gullies as deep as 6-8 feet have been recorded on trails. At one California ORV area, the annual erosion rate was estimated at 11,500 tons of soil per square kilometer. (Hammitt and Cole 1995) A study in Kentucky estimated that over 20 years of ORV use on a 40 acre site, 10 million pounds of soil were lost. (Kalisz 1996) The same study found that compaction, as measured by penetrometer resistance, nearly tripled (from 150 psi to 395 psi) between samples undisturbed by ORV use and those where ORVs were used.

The complexity in the types and properties of soils makes a comprehensive undertaking of the mechanisms and variables of soil dynamics a daunting task. Yet it is important to not let these complications hinder the essential realization that ATVs have a significant impact on all soil types. More specific attention to the soil types of the Adirondacks is included on page 40.

Trail siting and layout have a significant effect on a trail’s susceptibility to erosion and compaction. Careful trail design that avoids factors like steep

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grades and wet areas can minimize soil impacts. On the other hand, existing trails that have not been designed for ATV use may be especially prone to erosion and compaction. If a trail traverses areas that are poorly drained or have high water tables, ATV use will almost inevitably cause considerable damage.

Damage to Vegetation

ATVs affect vegetation both directly and indirectly. The direct impacts are easy to understand; when motorized vehicles go off-trail they do serious damage to flora in their path. Indirect impacts are also important, however. Soil compaction and erosion result in a decline in plants' ability to grow and regenerate, as well as decreased soil fertility, as mentioned above. Both are detrimental for local flora. Effects on vegetation promote a cycle of loss, because a decrease in plant cover results in increased susceptibility to erosion.

ATVs can also be a mechanism for the introduction of exotic species, by physically transporting seeds or plant material to new areas, by disturbing the soil and thus giving exotics opportunities to take root, and in extreme cases by transforming the canopy and habitat enough to allow edge species to intrude. Exotic species are widely regarded as a significant threat to native flora.

Impacts on Wetlands and Water Quality

The increased runoff and erosion discussed above have serious consequences for water quality, causing increases in sediment loads and turbidity in water bodies. These factors have a direct impact on water quality, and they also can affect biological and hydrological processes, such as the ability of aquatic plants to photosynthesize or the sediment deposition patterns of a stream.

The erosion effects described above are the result of runoff from off-site, but ATVs can also cause significant on-site damage when crossing streams or wetlands. The impacts—an increase in turbidity—are similar, although on-site damage is more likely to directly affect vegetation and soils. Impacts to wetlands are particularly detrimental to overall ecosystem health because of the important functions that wetlands serve in hydrological cycles and in maintaining water quality.

Direct damage by ATVs to wetlands (as opposed to riparian communities) is especially likely because of the presence, by definition, of poorly-drained soils. This increased likelihood of damage, coupled with the increased ecological impact of damage, makes wetlands a high priority for protection with respect to ATV issues. Studies have documented the susceptibility of vegetation and soil to suffer damage by ATVs. One study in the Cape Breton Highlands of Nova Scotia involved marking plots in a bog and driving an ATV through them a fixed number of times. Even on the plot with only one pass by an ATV, the tracks were visible a year later—the vegetation and soils had not fully recovered. (Ross 1991) The study, which involved analysis of pre-existing ATV use impacts in addition to the experimental plots, concluded that “ATVs should be prohibited from all bogs and wetlands in the Cape Breton Highlands. This thesis has demonstrated that these ecosystems are unsuitable for ATV travel as they are very susceptible to damage from recreational vehicles.”

According to the EPA, vehicles equipped with two-stroke engines also discharge a significant portion—25 to 30%—of their fuel directly into the envi-

ronment, unburned (Wildlands Center for Preventing Roads 2001). The cumulative effect of this fuel can have a significant effect on soil and water chemistry.

Air Pollution

Two-stroke engines are notorious polluters and many ATVs, particularly older models, are equipped with such engines. The California Air Resources Board has released data showing that in just one hour of operation, a two-stroke engine produces as much smog-forming pollution as the average car generates in a year of operation (Wildlands Center for Preventing Roads 2001). The pollutants released by inefficient engines include carbon monoxide, nitrogen oxides, ozone, particulate matter, and benzene, among others. These pollutants pose important health risks for both humans and animals.

Pollution by ATVs is not limited to those with two-stroke engines. Catalytic converters have not historically been required on small four-stroke engines, and thus the emissions from an ATV with a four-stroke engine may still be much higher than from a car. The ATVs in use nationally, both two-stroke and four-stroke, are estimated to produce 130,000 tons of hydrocarbons, 550,000 tons of carbon monoxide, and 4,000 tons of nitrogen oxides annually. (Environmental Protection Agency 2002)

In an attempt to address the cumulative pollution of ATVs in California, the California Air Resources Board adopted emissions standards for ATVs in 1994. The standards required manufacturers to meet average emissions requirements over their line of machines by 1997 or 1998, depending on the engine size, in order for the machines to be legal for sale in California. New machines had to meet the requirements in order to receive the registration sticker good for state facilities. The standards did not dictate the technologies that manufacturers had to use to meet the emissions requirements, but many manufacturers met the requirements by producing machines with four-stroke engines, catalytic converters or fuel injection.

The Environmental Protection Agency released a proposed rule in September of 2001 to enact similar measures nationally to what California has already done. During the comment period on the proposed rule, environmental groups criticized the rule for being too lax, while ATV advocates complained that it may be too harsh for manufacturers to meet the requirements. The rule, imposing average emissions requirements for ATVs, was adopted in September of 2002.

Impacts on Wildlife

The interrelated impacts on soils, water quality, and plant species, as well as pollution, all affect wildlife. To provide just one example of the cause-and-effect linkage among these disturbance factors: soil compaction causes increased erosion and runoff, which in turn affects water quality and an increase in streams' sediment loads, and this affects fish habitat. But to break the impacts on wildlife into discrete areas, several types of impacts can be isolated: direct mortality, habitat modification, pollution, and disturbance.

The threat to wildlife of direct mortality by ATVs (being hit, for example) is relatively minor in comparison with the indirect impacts of ATVs on habitats. Habitat modification by ATVs takes a number of forms. As discussed above, the factors of soil compaction, erosion, decline in water quality, and loss of veg-



etative cover can all adversely affect wildlife. Additionally, the creation or widening of trails or roads to accommodate ATV use can be detrimental to wildlife because of the resulting fragmentation of habitat, increased human access to backcountry areas, and displacement of interior species by edge species. Habitat fragmentation is widely regarded as a major threat to species diversity. A good deal of research has also been done on the impact of trails and roads on the behavior patterns of wildlife, demonstrating that many wildlife species shift their home ranges or movement patterns in response to the presence of roads or trails, whether to avoid humans or to take advantage of travel corridors (Bennett 1991; Formann and Alexander 1998). These shifts have consequences for population dynamics and predator-prey relationships. Additionally, the introduction of exotic plant species, discussed above, can be damaging to native wildlife populations. All of these impacts are exacerbated if ATV users widen trails or create new trails. Another habitat modification impact pertains to the micro-habitats that are sometimes created when pools form in rutted trails. Particularly if this happens in the wet spring season, amphibians may be attracted to the area for breeding, despite the fact that their chances of survival in an ATV trail are poor (Defenders of Wildlife 2003).

Pollution, another threat listed above as having an impact on wildlife, includes both water and air pollution. The example cited above involving water pollution and its effect on fish populations illustrates one type of potential consequences posed by ATV emissions.

The final category of impact on wildlife is disturbance, which is less tangible than the other effects. Disturbance includes the myriad ways in which wildlife suffer from the noise pollution and human presence which results from ATV use. The average ATV with a muffler produces noise at a level of 81-111 dB (Bluewater Network 2002). Being in the vicinity of this volume of noise can cause direct damage to wildlife; they can suffer auditory damage just as humans can, and the noise can also directly affect predator-prey relationships by masking the sounds that generally have an important role in those interactions. High levels of background noise can have a number of indirect effects as well. Noise can cause wildlife to be stressed, and it can affect their balance of energy expenditures, cause an increase in animals' heart rates, and affect behavior patterns such as nesting and reproduction or feeding and foraging. These impacts may or may not be devastating to an animal depending on the season, its energy budget, and the extent of the disturbance. One study of disturbance by ATVs involved mule deer; the researcher disturbed a mule deer population and tracked its feeding and travel patterns. The disturbed group altered its behavior and had a lower reproductive rate the following season than the control group. (1995) Another study looked at birds' travel patterns and found that birds traveled away from areas where ORVs were in use to areas where there was little or no ORV activity (Wildlands Center for Preventing Roads 2001).

Noise Pollution

Analyses of the noise produced by an ATV vary slightly, but an average estimate is that a single ATV produces 80 decibels at 50 feet (Blumberg 2003). For purposes of comparison, this is slightly quieter than a tractor-trailer driving on a highway, and considerably louder than a diesel delivery truck idling. The pre-

cise noise level of a particular ATV varies according to the type of engine and muffler, the ground surface, and whether the machine is accelerating or not, among other factors. For general purposes, though, it is possible to model the soundscape produced by one or more ATVs with rough accuracy. If an ATV produces 80 decibels at 50 feet, and there is not dense vegetation to attenuate its noise, it will be at a volume of 56 decibels 800 feet away. This is loud enough to interfere with conversations. If two such machines are together, and again assuming that there is not vegetation or other factors that directly interfere with the sound waves, they could be audible from two miles away. Noise has an impact on wildlife, as discussed above, and on non-motorized users.

Impacts on Non-motorized Users

ATVs' impacts on non-motorized users are not, strictly speaking, ecological factors, but they are included here because of the general effect that they have on the character of wild areas and on the natural environment as it is perceived by other humans. This is a complex subject that could easily extend far into the realms of recreation management and human psychology. Simply put, however, ATVs interfere with the resource of silence that many non-motorized users go into wild areas expecting to find. One study of recreationists' responses to noise suggested that backcountry users are much more sensitive to man-made noise than front-country (road-accessible campground) users.⁷ These same backcountry users rated off-road vehicles as the most irritating noise sources in the study (Kariel 1991). It is worth mentioning that a broad group of backcountry users find motorized uses irritating. In addition to the reactions of hikers and backpackers mentioned above, several studies of sportsmen have documented that a majority of hunters feel that the presence of motorized recreational vehicles detracts from their recreational experience (The Wilderness Society 2001).

ATVs may also leave physical evidence of their presence (obvious erosion, for example), which is a reminder to other users about the presence of motorized use, and therefore a statement about the natural character of the area. As a result of these factors, motorized use is often seen as being incompatible with some other types of recreational use. In the Adirondacks, where 70 million people live within a day's drive of an enormous resource of public land, there is considerable pressure to balance incompatible uses.

Impacts and Implications for Management

It should be emphasized that the impacts detailed above do not occur in a vacuum. There are many complex relationships between the systems of a wild area, and damage to any element of the system may have serious effects on the area's overall ecological health.

Some of the impacts detailed above can be mitigated with good management. Trail siting and appropriate trail management, for example, are critical factors in determining whether an ATV-used trail is particularly susceptible to erosion. Some of the impacts, however, cannot be mitigated other than by limiting or restricting use. Nothing else, for example, will curb impacts on wildlife.

Where decisions like trail routing, trail maintenance, or amount of permitted use can have an effect on environmental impacts, the goal of management is to halt undesirable change, a process which involves both establishing limits

ATVs interfere with the resource of silence that many non-motorized users go into wild areas expecting to find

of acceptable change, and also “finding an optimal balance between use and protection.”(Hammitt and Cole 1995) The sequence of events to achieve these ends should involve quantifying or documenting damage, deciding how important the existing damage is, setting objectives for environmental conditions, inventorying conditions periodically, and comparing existing conditions to environmental objectives.

A more dramatic stance on the environmental payoffs of management is presented by Joe Wernex in the American Motorcyclist Association’s “Off-Highway Motorcycle & ATV Trails: Guidelines for Design, Construction, Maintenance and User Satisfaction.” In the introduction, Wernex says

...no amount of restriction or enforcement can begin to provide the environmental protection achieved through provision of adequate facilities and rider education. When quality trails are built, riders use them. When riders use properly constructed trails, environmental impacts can be designed for, monitored and controlled. The single most important key is adequate mileage of high quality competently designed trail. (Wernex 1984)

While this report will not address or take up every component of Wernex’s argument, he at least makes the point that use, if it is going to occur, causes less environmental damage on well-designed trails than on areas that are not laid out or managed for ATV use.

Safety Issues Associated With ATVs

No discussion of the risks of ATVs would be complete without mentioning safety issues. The Consumer Product Safety Commission compiles data on ATV-associated deaths and injuries. Between 1982 and 1999, the Commission received reports about 3,716 deaths caused by ATVs nationwide (David 2002). During this period, almost five percent of those deaths, a total of 173 fatalities, took place in New York; New York suffered the third-highest level of ATV-related fatalities of the fifty states. The figures for ATV-caused injuries are higher; in 1999 alone, the Commission reports 71,300 ATV-related injuries nationwide. These numbers collectively represent an increasing number of deaths and injuries in recent years, which are not accounted for solely by an increase in the number of ATVs in use. (In other words, the numbers of deaths and injuries have increased more quickly than the number of ATVs in use.) Furthermore, this increase is taking place despite the fact that three-wheeled ATVs, which were notorious for their safety risks, are no longer widely used. The number of annual ATV-related deaths dropped in the mid- and late-80’s as 3-wheeled ATVs were being phased out of use, but the numbers have increased in recent years (though they have not reached the highs of the mid-80’s.)

To put these numbers into perspective in terms of other forms of recreation, the Canadian Institute for Health Information (2003) determined that in 2000/2001, ATVs were the third leading cause of severe recreation injuries in Canada, representing 13% of the recreation injuries studied, with a mean hospital stay of 14 days. To compare the numbers with the risk of injury from an automobile, the Consumer Product Safety Commission (2002) estimates that the annual risk of death per 10,000 ATVs is 1.5. This is slightly lower than the risk of death per 10,000 automobiles, 1.9 (National Highway Traffic Safety

Administration 2002). The injury figures from the same sources are higher for ATVs than for automobiles: 262 and 137 per 10,000 ATVs and automobiles, respectively. These figures are tabulated in terms of numbers of vehicles, not in terms of the hours or miles driven, so they might not be the best indication of the relative risks of automobiles and ATVs.⁸

The safety risks of ATVs are particularly acute for children. Thirty-five percent of the deaths summarized above were children under the age of 16. The Children's Safety Network publishes an ATV Safety Fact Sheet, which notes that an estimated 22.2% of ATV operators are under the age of 18. Yet this minority of ATV users suffer a disproportionately high percentage of fatalities, as noted above, and of injuries. The ATV Safety Fact Sheet reports that children under 16 suffered 40% of the ATV-related injuries between 1985 through 1994.(2002a) The state of New York has responded to these risks to children by requiring that individuals under the age of 16 complete an ATV safety training course to ride on lands other than those owned by a parent or guardian.

The safety risks of ATVs are an important factor in ATV access issues on public land, because of general liability concerns, the public's assumption of certain costs, such as search and rescue, and perhaps most importantly, because of the public's responsibility to make management decisions that minimize users' risks.

Economic Aspects of ATV Use

There are several economic issues associated with ATV use that are immediately relevant to this report. They include: the economic benefits of ATV use on public land, the environmental and economic costs of ATV use on public land, and the question of whether the same groups that reap the benefits pay for the costs. In 2001, the ATV market in North America represented the sale of over 800,000 units, at a retail cost of \$3,000 - \$7,000 each, meaning that ATV sales are over \$3 billion annually. This makes the manufacturing and sale of ATVs a sizeable industry, approximately comparable to the market for digital cameras, and there are many economic issues that are beyond the scope of this report. It is important, however, to attempt to assess the costs and benefits as they pertain to public lands in an effort to inform the policy-making process.

Economic Benefits

ATVing is sometimes touted as a source of economic development; like snowmobiling, it is seen as a form of recreation and a type of tourism with the potential to benefit income-poor communities.

A study of ORV use and users in Michigan assessed the economic impacts of ORV use in the state via a questionnaire mailed to ORV licensees (Nelson et al. 2000). The study did not differentiate among the money spent on ATV, motorcycle and SUV-related expenses, and statewide figures were extrapolated from the survey responses. In one year, owners of these three types of ORVs spent an estimated \$134 million on equipment, including ORVs and related equipment. The same group spent approximately \$40 million on the way to or while visiting ORV destinations. This latter category of trip-related spending is more closely associated with economic development than the former equipment category, because a small portion of the equipment money stays in the state. The

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ATVing is sometimes touted as a source of economic development; like snowmobiling, it is seen as a form of recreation and a type of tourism with the potential to benefit income-poor communities

authors of the study estimated that the retail margin on equipment sales is 30%, suggesting that, at most, 30 percent of the money spent on ORVs stays in state.⁹ The authors made a more careful analysis of the \$40 million spent on trip-related expenses. Using the Michigan Tourism Economic Impact Model, they analyzed the trip-related spending by sector and evaluated its impact on the economy. They estimated that it generated \$16.4 million in income for Michiganians and supported 822 jobs (some part-time, some full-time.) The jobs and income supported by the income were largely in the service sector. Because the study lumped ATVs, SUVs and motorcycles, it is impossible to determine what portion of this spending may be attributed to ATV use alone.

Another study, this one in Pennsylvania, also used a survey of ORV owners to assess the economic impacts of ORVs (ATVs and motorbikes) on that state. The study was authorized by the Pennsylvania Off-Highway Vehicle Association and the Allegheny National Forest. In the letter sent to the 500 recipients of the survey, the study coordinator said “it is hoped that the conclusions reached from this study can be used to improve OHV recreation in Pennsylvania by demonstrating how important we are to the states (sic) economic health” (Raffield and Berwager 2001). The study results did not assess whether the survey results may have been skewed by the motivations of the surveyors.

The study found that the “estimated total annual economic impact of off-highway vehicles on the Commonwealth of Pennsylvania” is \$1.14 billion. Of this total, \$676.8 million is estimated to be spent on OHVs and related taxes, \$45.8 million is spent on fuel, \$190.1 million is spent on food and lodging purchased on OHV trips, and the rest is spent on various categories including clothing, accessories, repairs, registration fees and competition fees. The study did not differentiate between the economic impact of trips to public land and trips to private land.¹⁰ Each ORV-owning household in Pennsylvania makes an average of four or more trips to private riding areas in Pennsylvania each year, and an average of three trips to state and federal trails each year, according to the study. The study also does not differentiate between types of spending that have a large impact on the local economy and those that do not.

Economic Costs

Just as it is difficult to capture the precise economic benefits of ATV activity, it is even harder to put a dollar figure on the costs to society of ATV use. Some areas that allow ATV use spend nothing on enforcement, trail construction or maintenance, or environmental remediation. This does not mean that ATV use has no costs; it simply means that the costs have not yet been addressed by the community. The emerging field of environmental and ecological economics tries to affix numbers to qualities like healthy ecosystems and clean water. This is a complicated subject, but the costs of ATV use can be at least partially captured by the amount of money that needs to be spent in order to have an environmentally stable trail network and lawful use patterns.

The discussion about designated ATV trails in the Allegheny National Forest in Pennsylvania, above, included some figures of the costs of trail construction and maintenance. These included trail construction and maintenance costs. The National Forest attempts to build and maintain ATV trails to a standard of environmental stability—trails that are sufficiently well designed, built and

maintained so that their use does not cause erosion, water quality damage, or damage to vegetation or wetlands.¹¹ Achieving these goals costs \$15,000-30,000 per mile in construction costs and \$1,000 per mile annually in maintenance costs, according to the Forests' calculations.

The costs of rehabilitating areas that have been used by ATVs in a non-managed fashion are not well understood, partly because these areas seldom see maintenance work. The illegal trails created by ATVs in the Chattahoochee-Oconee National Forest in Georgia (see the National Forest section, above, for more information) will cost approximately \$1 million, or an estimated \$1500 per acre of road area, to rehabilitate, according to Forest Service estimates. This amounts to somewhere between \$800 and \$1400 per mile of illegal road depending on its width, and this is a conservative estimate that does not include any wetland remediation or other ecosystem improvements. The numbers estimate the cost of bringing in equipment and personnel to improve drainage and revegetate the area with lime, fertilizer and grasses. The intent of these efforts is to close the trail entirely to use, not to make the trail stable and rideable (Luckett 2003). The cost considerations of reclaiming an area for riding, for restoration as a hiking trail, for repairing ecosystem and wetland damage, or simply closing an area entirely, are obviously quite different and complex.

ATV registration fees can be a source of funding for the costs of ATV facilities. Michigan's DNR and Pennsylvania's DCNR both handle ATV registrations in their states, thereby helping to fund their ATV programs. Some states also use federal funds to provide ATV facilities. New Hampshire, for example, uses funding from the Transportation Equity Act for the 21st Century, which distributes approximately \$50 million a year to states for recreational trails.

Externality and Equity Issues

"Externality" is the term used by economists to describe a situation where one person or group benefits from a situation, while a different person or group pays the costs associated with it. In the case of ATV use, an externality is present if a group of riders benefits from public land being open to ATV use, but the general public pays the price of environmental damage caused by the ATV use. In some cases, these costs may be the actual, financial costs of rehabilitation, and in other cases the costs may be less tangible, such as the effect that listening to ATVs or looking at damaged vegetation might have on other users of public lands. In either case, if externalities are present, they are an important factor in the economic effects of ATV use.

An issue related to externalities is equity, the less technical concept that land management policies should not unfairly or disproportionately affect one segment of the population. ORV users often make equity arguments about their rights to have public lands open to ORV use just as they are open to other kinds of uses. This is an important concern; where ORV use is restricted, it should be restricted on grounds that are defensible. A bias against motorized use should not, independently, be a rationale for limiting access; policies which are seen as arbitrary or inequitable undercut the validity of the policy process and respect for existing laws.

Policies which are seen as arbitrary or inequitable undercut the validity of the policy process and respect for existing laws

Summary of Economic Issues

The prism of economic analysis is sometimes used to judge public policy in the following way: if the economic benefits of a policy are greater than the economic costs of the policy, and if the policy does not pose significant externality or equity challenges, then it may be seen as worthwhile. It would be difficult to assess any ATV-related policy by this metric at the current time. The limited information that is available about the costs and about the benefits of ATV use (especially in New York) suggest that a great deal more research needs to be done before any ATV policy can be deemed economically viable. Even if more comprehensive cost/benefit analyses are done, there are a few critically important questions to consider:

- Is economics the right tool for policy analysis concerning ATVs? There are important factors associated with ATV use that are nearly impossible to capture in even the most complete economic model. It is valuable to have an understanding of the costs and benefits, but often these alone don't show the full policy picture.
- If economics is a useful tool, how carefully are costs and benefits being evaluated? Historically, cost/benefit analyses have failed to account for environmental costs. Any thorough analysis of the economics of ATV use needs to take all factors fully into account.
- Are externality issues being considered? Are the economic benefits directly helping to pay for the economic costs?
- Are equity concerns being fairly addressed? Is one segment of the population being disproportionately negatively affected by the existing policy?
- Are the economic benefits felt locally, or does much of the money leave the area before causing an economic benefit?

Resources Available on ATVs

Since the goal of this report is primarily to improve public understanding of the issues associated with ATVs, the Resources Appendix to this report is one of its most important sections. This report has drawn on many of these resources, but there is a wealth of other information available on topics broad and precise alike. Anyone interested in these issues will benefit from perusing the books, articles, reports, and websites available. These represent a broad array of mediums, approaches and perspectives on the issues.

Many organizations focus on issues related to ATVs. One of these is Tread Lightly!, an educational organization originally started by the U.S. Forest Service, and now funded by memberships and manufacturer contributions, that promotes lower-impact outdoor recreation ethics. Tread Lightly! distributes educational materials on responsible ATV riding, emphasizing such ideas as riding on trails, minimizing noise levels, and appropriate riding approaches to different ecosystems (Tread Lightly! 1998).

*When you
were a kid
you liked to*

PLAY

*in the dirt.
You still do*

*but with
respect for all*

*that grows
in it.*

Isn't it

NICE

*to be a
grown up?*



Our goal is to help you enjoy the great outdoors and make sure it stays great for the generations to come—through proactive education, responsible recreation and continuing restoration. So join us. Stay on the trails and be careful out there.

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treadlightly!
LEAVING A GOOD IMPRESSION



TreadLightly! promotes responsible recreation by ATV users and other recreationists. The organization is supported in part by ATV manufacturers, and it cites the possibility of decreased riding opportunities for consumers as a reason for corporate support.

- ¹ Off-road vehicles (ORVs) include snowmobiles, ATVs, motorbikes, four-wheelers, dune buggies, etc. Thus ORV is a more general category than ATV, and it is important to keep this in mind when assessing the positions of other agencies. For example, ORV use is permitted in New York's Forest Preserve, because snowmobile use is permitted in certain areas, but that does not mean that ATV use is permitted in those same areas. It would be preferable to compare only the positions of various agencies with regard to ATV use, but information is more readily available on the general category of ORV use.
- ² The survey did not include all National Park Service Units. Many were left out of the survey because they were considered to be too small to face the issue of ORV use.
- ³ The BLM utilizes the acronym OHV (Off-Highway Vehicle) rather than ORV and explains its rationale; for the purposes of consistency within this report, the acronym ORV will be used interchangeably with what some agencies refer to as OHVs.
- ⁴ These fine levels are not currently being imposed in the field, according to one representative of the DEP. At present, it is much more common for \$50 tickets to be written, and assigned a \$21 court cost, for a total cost to an offender of \$71. However, there is an effort to improve communication with judges and raise fines over time.
- ⁵ This refers to the Pittman-Robertson Wildlife Restoration Act, which established taxes on certain sporting goods, such as guns, to fund federal aid to the states for wildlife management and restoration programs. Hence, the Act established a system for user-payment for certain services.
- ⁶ It is important to note at the outset that few of these studies are both specific to ATVs and were conducted in northern ecosystems directly comparable to the Adirondacks. Many of the studies that have been conducted took place in desert or coastal ecosystems; similarly, many of the off-road vehicle studies that have been done have looked at the effects of vehicle types other than ATVs. This caveat should not prevent us from learning from these studies and their findings. There is a sufficiently broad base in the literature so that we can carefully but confidently draw important conclusions about the effects of ATVs on natural ecosystems, which can be applied to the Adirondacks.
- ⁷ Interestingly, the extent to which the users surveyed found off-road vehicles and other noise sources annoying had less to do with the volume of noise than the source of the noise, their expectations about their setting, and their perceptions of the appropriateness of the sound source. This suggests a bias that wilderness users hold against off-road vehicle noise.
- ⁸ Richard Earle, president of the Franklin All-Terrain Riders, has attempted to tabulate the local risk factors for ATVs and automobiles, and concludes that ATVs constitute 7 percent of local registered motor vehicles, but only 3.8 percent of area accidents. (Earle 2002) In his articles and letters to the editor, Earle emphasizes his organization's role in promoting ATV safety.
- ⁹ The authors explain that few if any of the ORVs used in Michigan are manufactured in the state; the manufacturing funds, therefore, go elsewhere.
- ¹⁰ A second study (Allegheny National Forest Riding Trails: An Economic Impact Study and OHV User Study, authorized and conducted by the same groups) attempted to study the economic impact of OHV use specifically at Allegheny National Forest. The conclusions of that study will not be discussed here, because its authors expressed some concern that the draft released to this author was still undergoing revisions.
- ¹¹ As noted above in the section on environmental impacts of ATVs, not all impacts can be mitigated with good management. There may still be impacts, for example, on wildlife, air quality, or noise pollution.

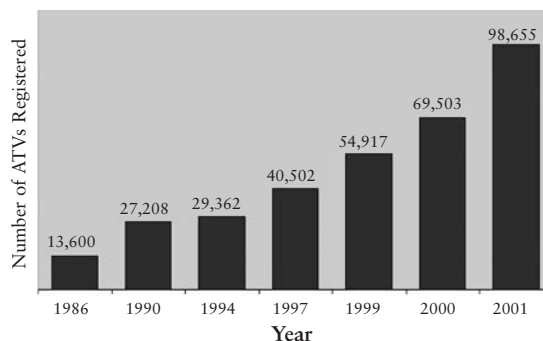


ATVS IN NEW YORK STATE AND THE ADIRONDACK STATE PARK

As mentioned in the introduction, there is an enormous amount that we, in New York, can learn from the research and experiences of those in other states, but we also have unique legal, ecological, and state land management situations that warrant detailed discussion. Following is an attempt to synthesize ATV-related issues in the Adirondacks, and, to a lesser extent, in New York in general.

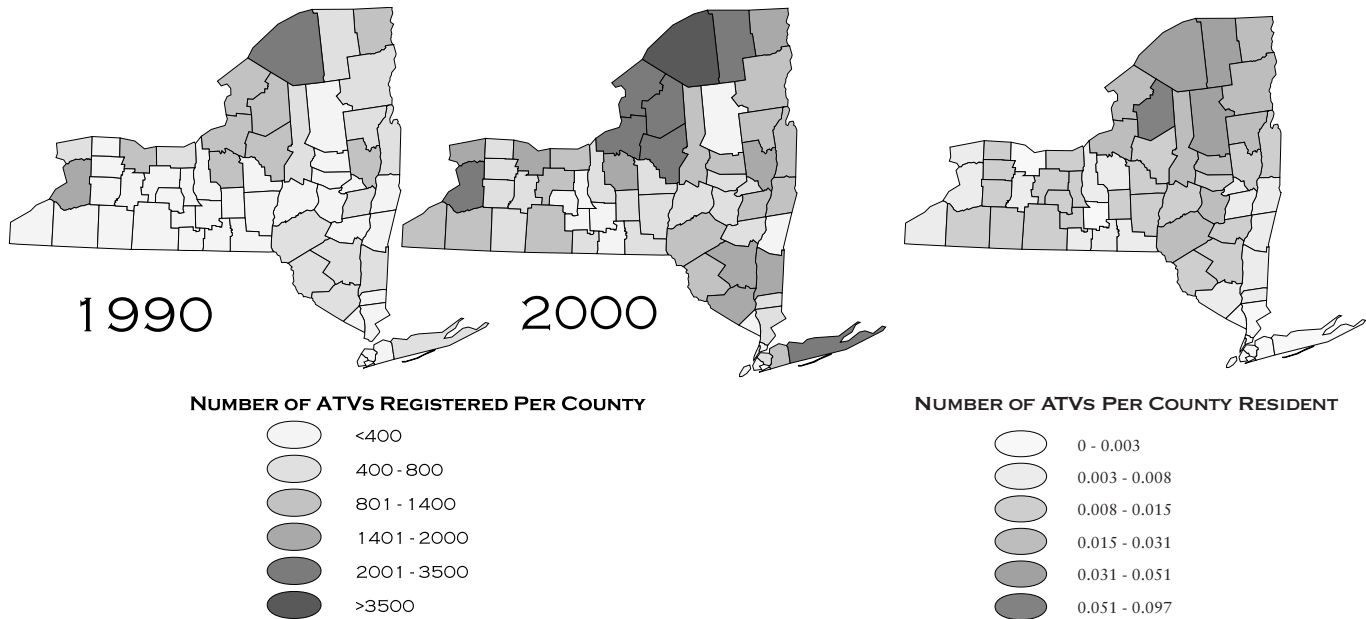
An Overview: ATVs in New York

The chart below demonstrates the growth in ATV registrations in New York State over the past decade (Burns 2002). This increase suggests the need for active management of ATV-related issues by the state. Registrations, however, may not reflect the whole picture. Although all ATVs, regardless of where they are used, need to be registered under state law, estimates of the actual number of ATVs in New York state are several times higher than the number of registrations. The New York State Off-Road Vehicle Association estimates that there are actually approximately a quarter-million ATVs in the state.¹² In 2002, by comparison, there were 146,662 snowmobiles registered in New York, and possibly many more unregistered machines (International Snowmobile Manufacturer's Association 2003).



Map 1: New York ATV registrations by county

Map 2: ATV registrations normalized by county population



Map 1 shows the number of registrations per county. St. Lawrence County and the Tug Hill area show a high number of ATV registrations; other area counties do not have particularly high registration figures. Map 2, however, shows the number of registrations per county normalized by population. This demonstrates the relatively high level of ATV ownership per capita in the North Country. In absolute terms, therefore, ATVs are not concentrated inside the Adirondacks. But, on average, a higher percentage of people living here own ATVs than elsewhere in the state. Policies regulating ATV ownership and use, therefore, have a more significant impact on the North Country than on other regions of the state. These maps, like the chart above, only include ATV registrations and do not reflect unregistered machines.

Legal Issues

ATV use in New York is regulated in several sections of both the state Vehicle and Traffic (V&T) and Environmental Conservation law (ECL).¹³

Vehicle and Traffic Law

Under Vehicle and Traffic (V&T) law, ATVs are defined as a class of motor vehicles, separately from automobiles, trucks or snowmobiles. V&T law mandates that ATVs be registered with the New York State Department of Motor Vehicles, that operators carry liability insurance if they leave their own property, and that ATVs can be operated by persons younger than 16 only on the property of their parent or guardian, or if they have completed an ATV Safety Course. As of 2002, ATV registrations cost \$10/year and the registration fees go into the General Fund, where they can be used for a wide variety of state government purposes. (This stands in contrast to the policy of using registration fees to fund a trail system. See page 45 for more on this topic.)

V&T law also places restrictions on where ATVs can legally go. Operating an ATV on a highway is illegal except under a few specified circumstances, such as a direct highway crossing or operation on a highway designated and posted as open for travel by ATVs. Operation on public land other than highways is legal only if the land has been designated and posted as open for travel by ATVs.

Designation of Roads for ATV Use

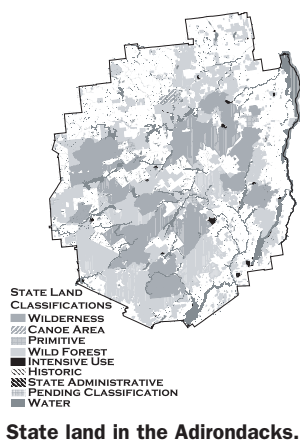
Highways or public lands other than highways can be designated and posted for ATV use only under certain provisions listed in V&T law. Interstate and limited access highways cannot be designated for ATV use; portions of other highways may be designated for ATV travel by the agency having jurisdiction over them “when...it is otherwise impossible for ATVs to gain access to areas or trails adjacent to the highway” (New York State 2003). There have been discussions in many towns about opening town roads to ATVs. Language in the state law limits municipalities’ jurisdiction in designating roads for ATV travel. Opening an entire network of roads (or just one road, for that matter) to ATV travel solely to provide riding opportunities on the roads does not meet the requirements for designation; the purpose of opening the road must be to provide access to legal riding areas (off the road.) In other words, V&T law stipulates that towns may only open roads to ATVs if the road serves as a connection between legal, off-road riding areas, not simply to provide a new place for ATVs to ride.

A town faces huge liability risks if it chooses to designate trails in excess of the jurisdiction granted by the law. Should an ATV rider be involved in an accident on a road designated by the town, but not meeting the V&T law requirements for designation, the town could be held liable. Further, since the town was not acting in accordance with state law, its insurance may refuse to cover the accident. Richard Hoffman, an attorney at the Department of State, has provided legal advice to several towns contemplating opening their roads to ATV travel. Hoffman tells municipalities about the limits of their jurisdiction, and he emphasizes the liability concerns. Hoffman advises town officials who are interested in opening roads to ATV travel to consult with their insurance companies regarding liability issues (Hoffman 2002).¹⁴

Environmental Conservation Law

In accordance with V&T law, the Department of Environmental Conservation (DEC) may make designations opening areas of land under its administration to ATV travel, but lands not specifically designated and posted open are closed to ATV travel. This “closed unless posted open” policy is confirmed in Environmental Conservation Law (ECL), both in the general section that pertains to the use of motor vehicles statewide (§190.8 (m)), and also in the specific section that regulates the operation of motorized vehicles in the forest preserve (§196.1). In ECL, ATVs are included in the definition of motor vehicles, although snowmobiles are defined separately. This means that ATVs have the same access rights as cars or trucks under ECL, but they still may not have legal





access to roads that have not specifically been designated for ATV use, under V&T law.

The Forest Preserve

The DEC has jurisdiction over 2.72 million acres of state land in the Adirondack forest preserve. This land is protected by the “forever wild” provision of Article XIV of the state constitution. The introduction to the State Land Master Plan sets forth the guiding principle for state land managers that “the protection and preservation of the natural resources of the state lands within the Park must be paramount. Human use and enjoyment of those lands should be permitted and encouraged, so long as the resources in their physical and biological context are not degraded.”

ECL spells out the specific circumstances under which operation of motor vehicles is legal within the forest preserve. None of these circumstances involves off-road travel; therefore, travel off-road is never legal. Motor vehicle travel on roads is legal only when: the road is marked by DEC for motorized vehicle use, the roads are under the jurisdiction of the state Department of Transportation or a town or county highway department, a legal right-of-way exists, or a few more very specific conditions are met. This map shows wilderness areas, primitive areas, and wild forests in the Adirondacks. As the map demonstrates, wilderness areas are generally large, contiguous areas, often buffered by other state land. Wild forest, in comparison, may consist of smaller, discrete blocks adjacent to private land.

The unshaded land on this map is private. Land shaded in grey falls under one of the other state land classifications.

State Land Classifications

The State Land Master Plan (SLMP) is the document that defines land use guidelines for state land in the forest preserve, and therefore it establishes the framework for designation of roads for motor vehicle use in different state land designations. The primary designations of state land in the preserve are wilderness, primitive, and wild forest; there are also six other state land designations, but they are much smaller in overall area and serve more specific functions.

Wilderness

The existence of roads and the use of motor vehicles is seen as fundamentally inconsistent with the wilderness classification, and therefore public use of motor vehicles and the creation of new roads are prohibited in wilderness. Existing roads in newly classified wilderness areas need to be closed, and administrative use of motor vehicles in all Wilderness areas is restricted to emergency circumstances.

Primitive Areas

There are approximately 30 primitive areas in the Park, many of which are relatively small parcels that would be part of larger adjacent wilderness areas, but contain nonconforming structures or improvements, such as roads. The goal of the SLMP is to manage primitive areas in a condition “as close to wilderness as possible;” the guidelines for motor vehicle use and for roads are comparable to

the Wilderness guidelines, therefore, except for the existence of some roads, as described above.

Wild Forest

For the purposes of this report, perhaps the most important state land classification is wild forest. This classification applies to units in which “the resources permit a somewhat higher degree of human use than in wilderness, primitive or canoe areas, while retaining an essentially wild character.” (State of New York 2001) It should be noted that, although wild forest areas are guided by a less stringent test of conformity than wilderness, they are still part of the forest preserve and thus are still subject to the “forever wild” clause of the Constitution. Several of the basic guidelines for wild forests relevant to this report include:

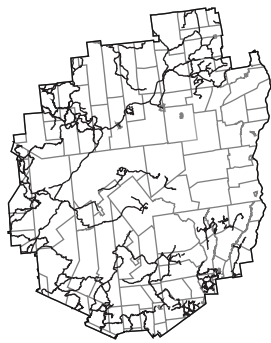
4. Public use of motor vehicles will not be encouraged and there will not be any material increase in the mileage of roads and snowmobile trails open to motorized use by the public in wild forest areas that conformed to the master plan at the time of its original adoption in 1972.
5. Care should be taken to designate separate areas for incompatible uses such as snowmobiling and ski touring or horseback riding and hiking.
6. When public access to and enjoyment of the wild forest areas are inadequate, appropriate measures may be undertaken to provide improved access to encourage public use consistent with the wild forest character.




The SLMP sets forth specific restrictions on the extent of motor vehicle use and road management in wild forest. The restrictions on motor vehicle use are not as stringent as in wilderness, but use by the public is limited to public roads or DEC roads designated by DEC as open for public use by motor vehicles. ATVs fall under the definition of motor vehicle under the SLMP, and so under ECL ATVs may legally ride on DEC roads designated for motor vehicle use, but ATVs may not necessarily legally ride on public roads, as discussed above, because of the stipulations of V&T law. Existing roads in wild forest may continue to be used for motor vehicle use according to the SLMP “provided such use is compatible with the wild forest character of an area.” The plan further defines appropriate uses in wild forest:

All types of recreational uses considered appropriate for wilderness areas are compatible with wild forest and, in addition, ...snowmobiling, ... and travel by jeep or other motor vehicles on a limited and regulated basis that will not materially increase motorized uses that conformed to the Master Plan at the time of its adoption in 1972 and will not adversely affect the essentially wild character of the land are permitted. ... The relatively greater intensity of use allowed by the wild forest guidelines should not be interpreted as permitting or encouraging unlimited or unrestrained use of wild forest areas.

ATVing is not specifically addressed as an appropriate or inappropriate use in part because of its relatively recent emergence as a recreation form. Recall the recent surge in ATV registrations, on page 31, as proof of this point. The SLMP was originally drafted in 1972, before the popularization of ATVs was

The State Land Master Plan sets forth specific restrictions on the extent of motor vehicle use and road management in wild forest



 SNOWMOBILE TRAILS
 ADIRONDACK PARK BOUNDARY
 TOWN AND VILLAGE BOUNDARIES

Snowmobile Trails in the Adirondack Park

The map shows the snowmobile trails that are funded through the NYS Snowmobile Trail Fund. (Data source: Office of Parks, Recreation and Historic Preservation) The location of snowmobile trails is relevant to this paper because snowmobile trails are widely used illegally by ATVs, and ATV users often point to the extensive snowmobile trail network as a comparison to legal ATV trail access.

a cause for special legal attention. ATVs were only first being introduced to the retail market at the time the SLMP was drafted. The question of whether the SLMP should adapt to current recreational pressures cannot be answered in these pages, though there are certainly people with strong opinions on both sides of that debate. There is more discussion about the SLMP and its ramifications for ATV access issues on page 57.

Snowmobile Use in the Forest Preserve

All of the previous discussion has focused on the defined extent of motor vehicles and ATV use, but it is appropriate to explain the legal distinctions between snowmobiles and ATVs. Unlike ATVs, snowmobiles are defined separately from other motor vehicles under ECL and in the SLMP. Both in ECL and in the SLMP, the legal use of snowmobiles and the extent of conforming snowmobile trails are defined. Snowmobile use is as strictly limited as motor vehicle use in wilderness areas. The same is true in primitive areas. In wild forest, however, there is an extensive network of snowmobile trails, on which snowmobile use is legal in the winter. ATV use is, in general, not legal on this snowmobile trail network (unless the snowmobile trail is on a DEC road that is designated for motor vehicle use and posted by the DEC as open to ATVs.) This distinction originates in the law and the SLMP, and it creates a significant discrepancy between the riding opportunities available in the forest preserve to snowmobilers versus ATVers. It is the product of historical accident, in part, since snowmobiles were better established at the time of the passage of the Adirondack Park Act, but it is also rooted in the differences in environmental impacts between snowmobiles and ATVs.

Roads in the Forest Preserve

Since motorized vehicles can only be legally operated on roads in the forest preserve, the number and extent of roads is closely linked to use of motorized vehicles on state land. As detailed above, roads are inconsistent with the wilderness classification and are, generally, being phased out of primitive areas. But the existing roads in wild forests are approved in the SLMP. There are somewhere between 200 and 250 miles of roads in various wild forests. The master plan partially defines a road as “an improved or partially improved way designed for travel by automobiles and which may also be used by other types of motor vehicles except snowmobiles, unless the way is a designated snowmobile trail.” Foot trail, horse trail, snowmobile trail, and state truck trail are defined separately. These definitions, however, are open to considerable interpretation. For example, other than the degree of improvement and the intended function, there is nothing absolute that distinguishes a foot trail from a road, and both of these distinctions are open to personal interpretation.

Another grey area in the language of land management is the very distinction that roads are acceptable in wild forests although they are not in wilderness areas. This is presumably a result of the definition that wild forests “permit a somewhat higher degree of human use than in wilderness,” but the constitutionality of this interpretation under the “forever wild” clause has not been tested in court.

Legal Issues Related to the Americans with Disabilities Act

Access to state land by ATVs generally follows the legality guidelines outlined above. But a lawsuit filed in 1998 in U.S. District Court on the basis of the Americans with Disabilities Act (ADA) charged that the state's laws regarding ATV access constituted discrimination in public services, which are prohibited under Title II of the ADA. Until the case, *Galusha vs. New York State DEC*, was settled, it held the potential to significantly affect the landscape of ATV access issues, including, at the most extreme, the possibility that Americans with disabilities might be granted motorized access to trails, even in wilderness areas. Final settlement in the case came in July 2001, when the plaintiffs, defendants, and party-intervenors in the case signed a consent decree. The fundamental ATV access laws and land classification guidelines were not significantly affected by the consent decree. The settlement did result in DEC contributing significant funds to bolster disabled access to DEC facilities, including camping areas, horse ramps, parking facilities, etc. In terms of ATV access, the settlement concluded that access to trails would not be expanded, but that disabled individuals with permits would have access to specified roads in wild forests. The roads listed for disabled access total approximately 65 miles, in five different wild forests. Here, again, the distinction between roads and trails is in accordance with interpretation under the SLMP definitions.

Legal Issues on Private Land

Under V&T law, an ATV user can ride on private land only with permission of the owner. This applies to all private land, whether it be a small residential parcel or a large private forestland property. Some of the corporate landowners in the Adirondacks have allowed certain types of uses on their properties through a written easement or lease. For example, snowmobile clubs have formed agreements with several large landholders for rights-of-way that establish snowmobile trails. But these rights-of-way are legal documents that pertain to one use type only. Niagara Mohawk has several power lines that traverse large distances in the Park, and the town of Franklin has an agreement with NiMo to have a snowmobile corridor on one of the power line properties. NiMo security officials, however, confirm that this corridor is not open to ATV use; the agreement for the snowmobile trail opens use to snowmobiles only. The power company has been expanding its efforts to post and gate its power lines to prevent illegal access, and some trespassers on ATVs have been apprehended by state police recently.

Several paper companies own large tracts of land in the Adirondacks for timber management. At least two of these, Finch Pruyn and International Paper, lease access to their land to individuals or clubs. These leases are primarily for hunting access, and sometimes for access to cabins or other structures. Both Finch Pruyn and International Paper allow leasees on their property to use ATVs, and both companies prohibit ATV use by the general public.

Illegal ATV Use on the Forest Preserve

The legal framework regulating ATV access to state land in the Adirondacks is described above, and cumulatively V&T law and ECL law prohibit ATV use on

There are varying sentiments about how much illegal ATV use goes on, but everyone agrees that it exists

virtually all public lands within the Adirondacks. Nevertheless, ATVs are used on forest preserve lands not designated for ATV use. There are varying sentiments about how much of this abuse goes on, but everyone agrees that it exists. This conclusion raises several questions:

How much abuse is actually occurring?

Where is abuse happening?

How much environmental damage is illegal use causing?

What is the economic cost of illegal use?

Why is this illegal use happening?

Who are the illegal users?

Is this an enforcement problem?

What can be done about the situation?

How much abuse is actually occurring?

It is challenging to attempt to quantify the amount of abuse that is occurring in absolute terms without doing a comprehensive survey of the park's 2.7 million acres of state land. An informal and incomplete survey for this report, however, found evidence of at least some illegal access by ATVs on 2/3 of the trails visited.¹⁵ These results should not necessarily be extrapolated to the entire park, since the survey was not statistically random. Still, even this modest survey showed a significant amount of illegal use.

The photographs below show several locations of illegal ATV use on state land.



Photographs are one way of documenting illegal ATV use on Forest Preserve land.

Estimates of the extent of illegal use park-wide vary among interested parties. Well over a dozen DEC employees were interviewed for this report, among them rangers, environmental conservation officers, planners, and operations staff.¹⁶ All acknowledge the existence of at least some illegal use. Some of the staff interviewed see more use—and more environmental damage from use—than others. There is a correspondingly wide variety of opinions about the seriousness of the illegal ATV use issue among these DEC staff. At one end of the spectrum are staff members who do not see ATVs as being a serious issue for the department. At the other end of the spectrum, though, are staff who see flagrant ATV abuse and significant amounts of associated environmental damage.

A number of these individuals expressed frustration at the wide extent of illegal ATV use, and the potential for this use to be an increasingly widespread and difficult issue.

While these accounts do not constitute an empirical quantification of the amount of use taking place, they are sufficient to suggest that this is a serious issue of concern for land managers and all stakeholders in the Adirondacks. There is a need for more data about the extent of illegal ATV use and environmental damage, but the discussion about these issues should not stand still in the interim.

Where is abuse happening?

Most illegal use takes place in wild forests, although there have been anecdotal reports of some abuse in wilderness and primitive areas. Wild forests are less concentrated than wilderness areas; they are more likely to be small chunks of land and less likely to be buffered from private land. (See the state land map on page 34 above.) Wild forests also have slightly more lenient policies about roads and motorized use than wilderness areas, although most areas in wild forests are still prohibited to ATV use. Snowmobile trails, although not legal for ATV access, are often used illegally by ATVs. And partly because of the distribution of wild forests, and possibly also because of the concentrations of ATV ownership, there is generally more ATV use on the periphery of the park than in its center. A partial list of wild forest units with illegal ATV use includes: Wilcox Lake, Lake George, Ferris Lake, Watson's East Triangle, Independence River, Black River, Aldrich Pond, and Wilmington Wild Forests. It is likely, however, that nearly every wild forest sees at least occasional illegal use, and use intrudes into certain wilderness areas as well. The Resident's Committee to Protect the Adirondacks has documented illegal ATV use in Jay Mountain, Sentinel, McKenzie, Five Ponds, and Silver Lake Wilderness Areas (Bauer 2002). More focused trail surveys need to be performed to evaluate the precise extent of illegal use.

How much environmental damage is illegal use causing?

This issue, just like the amount of illegal use overall, is difficult to quantify without doing a comprehensive survey of the Forest Preserve. The informal survey



conducted for this report found significant environmental impacts from ATV use on half of the trails visited. As mentioned above, this is not meant to suggest that half of the wild forest trails in the forest preserve are significantly impacted from ATVs, but illegal use is undeniably causing environmental damage.

The environmental damage that is taking place in the forest preserve includes damage to vegetation, impacts on wetlands, and erosion and damage to soils. As mentioned above, much of the illegal use that is taking place is on snowmobile trails, which are laid out for travel during frozen conditions. Many of these trails traverse poorly drained or highly erosive soils, and many pass through wetlands. These factors make snowmobile trails highly susceptible to environmental damage by illegal ATV use.

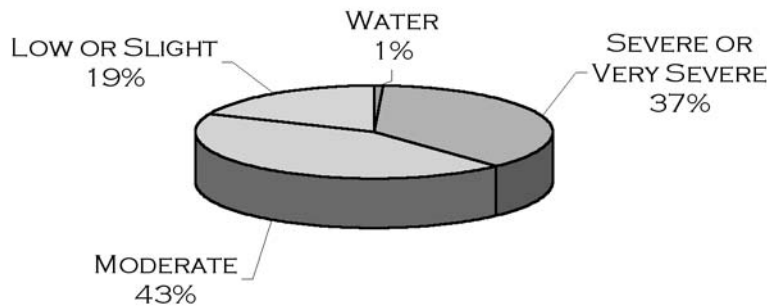
The charts on opposite page, depict some of the characteristics of the soil types found on state land in the Adirondacks (Adirondack Lakes Survey Corp et al. 2001).¹⁷ The high percentage of state land with soils that are ranked as highly erodible or severely erodible is particularly telling, as is the significant minority of land area that is poorly drained. In general, this is not an area with soils that are well suited to environmentally sustainable ATV use. Generally, Adirondack soils are buffered from erosion by a thin, dense surface layer of roots and organic matter. Once this mat is cut, either by hiking boots or ATV wheels, Adirondack soils, which generally have high organic content and homogeneous soil structure, are extremely prone to erosion. Organic soils, which are common in the Adirondacks, have weak particle bonds and low bulk density, and are therefore very erodible. The specific trails being illegally used by ATVs include ones on areas of state land with both erodible and poorly drained soils.

In the Adirondacks, environmental damage by ATVs often takes place on wet sections of trail designed for winter snowmobile use. Depending on the amount of illegal use, the trail gets wider and wider as the trail becomes increasingly muddy. Future users circumvent the wet areas, in many cases creating new trails, damaging vegetation and opening up new areas to abuse. Little funding is available for trail maintenance to arrest the problem. Often, environmentally sensitive areas like streams and wetlands are affected. These problems occur in both low-lying areas and upland regions.

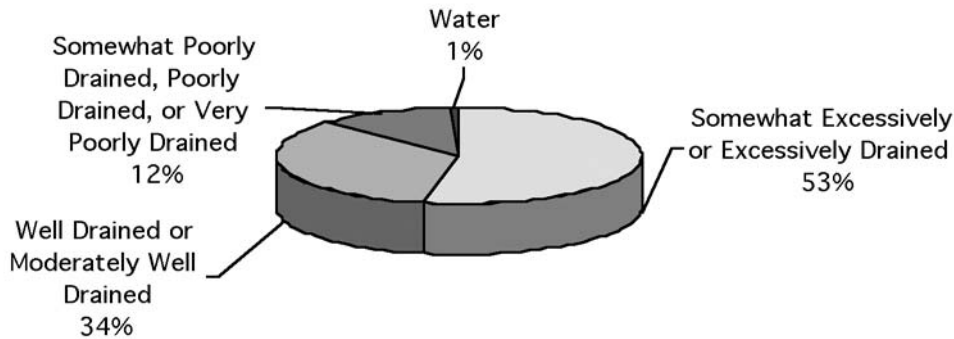
ATV use has been associated, in some instances, with other egregious violations and cases of environmental damage, including tree cutting, wetland fills and illegal trail creation, according to DEC staff. These occurrences are not the norm, but they are taking place and thus are a concern.

Impacts on soils, wetlands and water in all likelihood have impacts on wildlife populations in the Adirondacks. The other factors that can impact wildlife—stress, noise, and direct mortality--discussed in Part Two of this report may also impact wildlife in the forest preserve, but these impacts are less visible and have not been studied intensively in this region.

Generally, there is a need for more study on ATV environmental impacts in the ecosystems present in the Adirondacks. There is also a genuine need for a more thorough, park-wide assessment of environmental impacts of ATVs. Some work has been conducted, by both state and private entities, to document ATV damage to trails, but this should more thoroughly and explicitly be incorporated into the Unit Management Planning process, utilizing a uniform



Erodibility Ratings of State Land by Area



Drainage Ratings of State Land by Area

To repair a 30 foot backcountry section of impacted hiking trail through a wet area could take a professional trail crew two weeks of work and cost \$7,000-10,000

methodology, perhaps in cooperation with concerned citizens. Other regions have developed systems for documenting trail impacts, and interested parties in the Adirondacks could use these examples as a starting point in developing a system locally (Higgins and Knight 2002; Wildlands Center for Preventing Roads).

What is the economic cost of illegal use?

One way to assess the economic cost of illegal use would be to ask how much it would cost to restore all trails and off-trail areas damaged by illegal ATV use. At the moment, little money is being dedicated to trail maintenance in these areas, partly because the use is illegal. The costs would likely be significant. For example, to repair a 30 foot backcountry section of impacted hiking trail through a wet area could take a professional trail crew two weeks of work and cost \$7,000-10,000 depending on materials and the specifics of the situation (Tierney 2002). To come up with figures of a park-wide price tag, we would need more accurate numbers on the existence of problem areas, but even the most conservative calculations would tally considerable totals. These numbers, moreover, would only encompass trail rehabilitation. They would not reflect the cost of environmental damage, such as impacts on wetlands. A truly complete cost analysis would be difficult to perform, because it would need to reflect these environmental impacts, as well as the cost of noise pollution and other social impacts. As mentioned in the economics section, however, these costs should not be neglected in assessments.

For the purposes of comparison, some figures of the costs of illegal damage have been tallied in other areas. In the Chattahoochee-Oconee National Forest

Opportunities to improve deterrents to illegal use should be pursued—these options are likely to yield better long-term returns on effort than enforcement

in Georgia, over 500 miles of illegal trails created by ATVs will take over \$1 million to restore. This area is discussed more fully on page 14. The Forest Service's figures, however, do not include rehabilitating the trail to a useable status or restoring environmental systems.

Why is this illegal use happening?

Many ATV advocates in New York quickly point to the lack of legal riding opportunities as an important factor in the amount of illegal use that occurs. See "Legal Opportunities for Use," below, for a more comprehensive discussion of this topic. Others, however, counter that many ATV owners buy their machines in spite of this lack of legal riding opportunities. Critics of this behavior pattern extend little sympathy to riders, who may exercise a lack of foresight when they purchase their ATVs. The state's obligation, or lack of obligation, to provide opportunities for motorized recreation will be discussed below.

Some riders are not well educated about the forest preserve, ECL and V&T law, and may not understand the limitations on legal use. Misinformation and inadequate education have many causes: some confusion arises over the distinction between ATVs and snowmobiles, and where the two can ride; ATV dealers do not necessarily dispense accurate information;¹⁸ the pamphlet on ATVs distributed by the DMV statewide includes only a short synopsis of access laws, and land managed by DEC is not specifically mentioned. (It is worth noting that the Suffolk County legislature passed a number of laws to address ATV issues, one of which requires ATV dealers to notify ATV purchasers about operational restrictions at the time of purchase.)

Other riders clearly understand that use on the forest preserve is illegal, but this doesn't stop them. (Evidence of this understanding includes incidents of signs and gates being defiled.) A combination of factors may contribute to this failure to abide by the law. One explanation would be that the laws might not be well enforced, or consistently enforced. See "Is this an Enforcement Problem?" below. But even consistent enforcement is unlikely to serve as a deterrent if riders feel that the penalties for illegal use are minor. The tickets written for illegal ATV use on state land are violations and carry fines of up to \$250, but they can be dismissed by a local judge if the offender pleads innocent and the judge decides in his or her favor at the trial. Some people have called for more significant penalties for use—higher fines, greater possibilities for impoundment of vehicles, even the linking of fines to the costs of environmental damage, as well as more consistent upholding of penalties by judges—as an important step in curbing illegal use.

Is this an enforcement problem?

This question really breaks down into two questions: is the problem on the deterrent end or the enforcement end, and are cases of abuse being adequately enforced? Of course, neither has a simple answer. It would be ideal if enforcement were not necessary, and anyone who sees this solely as an enforcement issue is misguided. Opportunities to improve deterrents to illegal use—through education, cooperation with user groups, better signage, more threatening fines or punishments, better gates and trail blocks, and possibly the provision of quality, legal riding areas etc.—should be pursued. These options are likely to

yield better long-term returns on effort than enforcement. Yet, without active enforcement many of these forms of deterrence lose their weight.

Between September of 2000 and June of 2001 Environmental Conservation Officers (ECOs) in Region 5 wrote 56 ATV-related tickets. Figures were not available from DEC about what portion of these tickets were for illegal use on state land (as opposed to infringements of Vehicle and Traffic Law, for example.) A separate number that is available is that between July 1, 2001 and September 30, 2002, 55 tickets were written by ECOs and rangers for illegal motor vehicle access on the forest preserve. This number could include infractions by people in cars or trucks as well as on ATVs. The database that tracks violations of Environmental Conservation Law showed that as of October, 2002, 19 of those violations had made their way through the legal system and been closed. These 19 included 15 convictions, with fines totaling \$445, an average a little less than \$30 per conviction. The outstanding tickets had not been reported back to the central database managers. It is a subjective judgment whether these numbers of tickets accurately reflect the number of abuses taking place in the field, and whether these fine amounts are sufficient to deter illegal use. Whether or not a significant percentage of violators are being ticketed, however, it would be useful to have better information about the tickets that are written.

ATV use presents an enforcement challenge. In order to ticket a violator, a ranger or ECO needs to catch someone in the act of breaking the law, which can be difficult, and also must be able to catch the individual if he or she decides to drive away. In conversations, several DEC staff members related their frustration at attempting to enforce illegal use. One ranger reported having worked for several years to catch a persistent abuser.

Rangers and ECOs often have huge districts and lots of other responsibilities, making it difficult to be in the right place at the right time to catch a violator. This is particularly true in wild forests, which are often spread out in small, discrete chunks of land. Moreover, many illegal ATV users are aware of these factors, and have an understanding of when to stay off state land. "They know where they can ride," said one DEC staff member, referring to ATV users' understanding of local rangers' schedules and their proclivities for enforcement. This raises the complicated issue of DEC staff's choices about when to pursue enforcement vigorously, and when to turn the other cheek. As an institution, DEC would clearly prefer to think that all field staff are enforcing the letter of the law. But historically some staff have been more active enforcers than others. And there are valid reasons why a ranger or ECO may prefer to not be seen as an overly active enforcer; as individuals who live in the communities where they work, it is important for them to maintain good relations with locals, and this sometimes-contentious issue arouses anger at times, and even violence.

In order to respond to the challenge of motorized abusers, two years ago DEC formed specialized teams of ECOs called Motorized Off-Road Recreational Vehicle Enforcement (MORE) teams. These are teams of two ECOs who are specially outfitted for motorized enforcement, and who are assigned to motorized-use enforcement details, including illegal ATV, snowmobile, and motorized watercraft use. The teams go all over the region on enforcement details; there are two teams of two people in Region 5. This has been a

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**“People are complaining about illegal ATV use, but they’re not complaining to us, and it doesn’t help us do enforcement if they don’t tell us about it.”
—DEC staff member**

proactive step on DEC’s part to address motorized use issues, and they try to place enforcement details in anticipation of high-use periods. Nevertheless, clearly four people cannot patrol all of Region 5 for several different kinds of motorized use by themselves; the MORE teams are not a complete solution to the problems of enforcement.

One of the challenges faced by DEC in terms of enforcement involves a lack of reports of abuse. “People are complaining about illegal ATV use, but they’re not complaining to us, and it doesn’t help us do enforcement if they don’t tell us about it,” commented one DEC staff member, who went on to explain that the Region 5 dispatch in Ray Brook had received only 15 calls regarding ATVs as of June 2001.¹⁹ Awareness should increase about the need for concerned citizens to report illegal use to dispatch.

Another important consideration in the enforcement equation is that rangers or ECOs are not the only links in the chain. State police are also responsible for upholding V&T law, although by the nature of their jobs, they are on roads rather than in the backcountry. The state police have put up road blocks to intercept egregious illegal ATV travel on roads, but they do not generally have specific ATV patrols. They, too, face enforcement challenges in terms of ATVs. If a trooper sees someone driving on a road illegally and pulls him or her over, riders sometimes take off into the woods or fields to the side of the road.

Some DEC staff think that their jobs would be easier if state police were more vigilant about upholding ATV laws. There is a need, these individuals say, for a more unified front among law enforcement officers in terms of ATV laws. These feelings suggest a lack of rigor on the part of the state police in enforcing laws, and not everyone in the enforcement community agrees that this is the case. The state police say that they do what they can, but point to the challenges mentioned earlier as preventing them from performing more active enforcement.

Another link in the enforcement chain is the local judge who hears the case. A person receiving a ticket has the option to plead guilty or innocent, and if he or she pleads innocent, the town court sets up a bench trial date. The defendant and the arresting officer are notified of the date and asked to appear to present evidence. The trial is informal, involving the judge and not a jury. The judge is charged with making a determination based on evidence, and theoretically he or she is impartial. If the arresting officer does not appear, the case is dismissed as a “failure to prosecute.” If the arresting officer does appear, he or she is responsible for providing evidence of the crime.

Despite the fact that V&T law and ECL both treat land as closed unless posted open to ATVs, many judges require that a trail is posted as closed to motor vehicles in order for a ticket to be upheld. The judge also has significant latitude in determining the fine that is ultimately assessed, within a set of guidelines. In some cases, a conviction does not result in any fine, since a judge can put a hold on the fine and dismiss it if the defendant subsequently exercises good behavior. The judge’s role in determining both guilt or innocence and the fine itself contributes to the number of variables that make the enforcement process irregular. Some town judges are known for being particularly reluctant to assign guilt in ATV cases. The Forest Preserve Advisory Committee has recommended that ATVs be a subject of one of the judges’ trainings that occur from time to time, but thus far that has not happened.

What can be done about the situation?

First, it is important to note that much is already being done to deal with the issue of illegal ATV use on forest preserve land. It is not the goal of this report to diminish the efforts of DEC staff and others who have been working to enforce state laws, uphold the spirit of the constitution, and bolster communication between disparate user groups. These efforts should be applauded. But, undertaken on an individual basis, they clearly have not been sufficient to comprehensively address the park-wide issue of ATV abuse. Given expectations of growing ATV use in coming years, more needs to be done to deal with this issue.



The basic points which should be improved upon are outlined below. More thorough discussion of these points follows, in *Envisioning the Future and Management Options*.

- Improved educational efforts-with dealers, with town judges, in schools, via the media, etc.
- Improved coordination with ATV user groups, open discussions about the possibility of providing legal riding areas, and more emphasis on self-policing
- Consideration of stronger penalties for illegal use, including impoundment of vehicles. The Suffolk County Legislature passed a law that explicitly authorizes law enforcement officers to impound ATVs that are operated improperly. See footnote below.²⁰
- Consistent emphasis on uniform, multilateral enforcement by all branches of law enforcement
- Better documentation and monitoring of trail conditions, incorporated into the UMP process, as mentioned above
- Establishment of priorities for trail restoration and maintenance, also as part of the UMP process

ATV Users in New York and the Adirondacks

Registration figures for ATVs were shown above, on page 31. Clearly, the popularity of these machines has grown rapidly, and many people predict this growth to continue. This growth makes it all the more important to understand ATV users: what their perspective is on the state land issues discussed above, who they are, and what steps they are willing to take to improve the current situation.

ATV Users' Perspective

Many ATV users in New York are dissatisfied with the state's provision of legal riding areas. See *Legal Riding Opportunities*, below, for the precise extent of legal riding areas; they are very limited, especially on state land. Under state law, as described above, all ATVs in New York must be registered, at a cost of \$10 annually. When the DMV first began to require ATV registrations in 1986, half of the annual registration fee went into an ATV Trail Development and Maintenance Fund; up to a quarter of this money could go to the Office of Parks and Recreation and the DEC for trail development and maintenance on state land. In 1990, the ATV trail fund was abolished and the entire ATV reg-

**“We contend
that an official
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mental impact
and inter-user
conflicts.”**

**— New York State Off-
Highway Recreational
Vehicle website**

istration fee was diverted into the General Fund. Many of the criticisms of the state government voiced by ATV users originate in these issues: the lack of state-provided riding areas, and the fact that mandatory registration fees go towards the General Fund rather than funding legal riding opportunities. The New York State Off-Highway Recreational Vehicle Association (NYSORVA) summarizes these points on their website, saying:

New York State law and policy currently serves the estimated quarter million + ATV and motorcycle trail riders poorly. Public OHV trail access is not an unreasonable desire on the part of members of a user group that continue to pay taxes, insurance and registration fees on equipment, but whom receive no services in return in the form of trail facilities. We contend that an official trail system for ATVs and trail bikes will reduce environmental impact and inter-user conflicts for all types of trail users regardless of mode of travel. An effective trail fund is just one step toward correcting this situation (2002g).

According to NYSORVA estimates, over \$6 million in ATV registration fees have been deposited into the General Fund since 1986. Legislation has been proposed that would re-establish an ATV trail fund. The bill, numbered 8781 in the Assembly and 4922 in the Senate, has several provisions; in addition to re-establishing the ATV trail fund, it dictates how the fund would be used and who would administer it. The Office of Parks, Recreation and Historic Preservation would have jurisdiction over the fund, and the money would be available to local governments for enforcement, safety and education as well as trail development and maintenance. The fund would not supply money for development of trails on state land or forest preserve; rather, the money would go towards development of trails on land under the jurisdiction of local governments or on private land open to the public. As of January 2002, the bill was in committee in both the Senate and the Assembly. Not passed in the 2002 session, the bill will be considered again in 2003. Whether or not it is passed, and its ultimate form, will have a critical role in the future of the ATV issue in New York.

In contrast to the position of ATV users, a portion of snowmobile users' registration fees does go into a dedicated trails fund (administered by the Office of Parks and Recreation) and there is an extensive network of snowmobile trails in the state. Many ATV users feel that they should receive comparable treatment.

In 2000, NYSORVA conducted a survey of ATV users to determine whether there was public interest in increasing the ATV registration fee by \$10/year and dedicating the fee increase to the development of public trails. The group sent out 20,000 surveys and had received 1,500 responses at the time of their preliminary data compilation. (Howard 2000) Among respondents, a vast majority (over 98%) expressed support for the creation of a public trail system for ATVs, and for legislation to support such a system. 86% of respondents supported a \$10 fee increase to support such a trail system.

NYSORVA's vision is to have regional contained and long-distance trail riding opportunities to serve the large number of ATV users in New York State. They believe that such a network would reduce chronic trespass problems, as well as bringing economic benefits to communities. For more about the possibility of creating a legal riding network, see The Question of Expanding ATV Access, on page 55, below.

ATV Users: Who are they?

Part II of this report summarized some national studies of the demographics of ATV users. There have not been detailed demographic studies of ATV users in New York, but it is believed that the average user is male, in his forties, has some college education and a household income of \$50,000. The New York State Off-Road Vehicle Association (NYSORVA) does not have reliable membership figures, but aims to represent the approximately 150,000 households of ATV users in the state. There are also approximately 60 local ATV clubs in the state.

Different Types of Riders

Within the population of ATV users in New York, there are different types of riders—people that fall into different demographic or educational classes, people who ride for different reasons or who ride in different ways. These distinctions have implications for management and for communication with ATV user groups. However, there has been little (and possibly no) sociological research on ATV users in New York. The following observations, therefore, are anecdotal.

One general breakdown of ATV user types, offered by an individual who has spent a lot of time around ATV users, is this: there are five general types of users, including (1) sportsmen and hunters who use their ATVs for hunting, (2) individuals who cross-over from the snowmobile community, especially somewhat older people who are involved with snowmobile clubs, (3) property owners who have ATVs for family, recreational or work-related use on their properties, and (4) people who are thrill-seekers. Of course, these categories are not perfect or completely mutually exclusive, but they establish a framework for talking about ATV use.

These differences are connected to users' levels of organization, their expectations about the future, their riding behavior, and their likelihood to violate the law. People in the first and second categories, snowmobilers and sportsmen, are most likely to belong to ATV clubs, are likely to be reasonably affluent, are likely to be familiar with the legal system surrounding ATVs and the political processes that govern motorized use, and may have high expectations about extending motorized opportunities to ATV users. People in the third category may or may not own much land of their own; they may use their ATVs for farming, forestry, or general maintenance use, or, if their land is adjacent to state land, they may ride illegally on state land. People in the last category, often younger riders, may intentionally violate laws and may not be interested in working with organized groups on ATV issues.

The different reasons that people ride are connected to the ways in which they ride. Some people use ATVs as utilitarian machines, others use them for easygoing recreation, and still others seek a more high-adrenaline recreational experience. It is important to consider all categories of users when formulating policy related to ATV access. These distinctions have environmental consequences; some people are interested in recreating, and others in wreckcreating.

An understanding of people's motivations is illuminating, but there are deeply entrenched issues associated with the culture of motorized use that would be difficult to change, even if the individual issues could be identified as particularly troublesome. The advertising used to market ATVs, for example, consistently depicts them in a decidedly unenvironmental fashion. "The Road to Heaven is Paved in Mud," and "You're going to have to face it; you're addicted to mud" are two recent slogans used to sell ATVs. These ads suggest a culture that would be difficult to

Snowmobile clubs, in many places, have easements to travel over private land in the winter, but these easements do not extend to ATV use

reconcile with behavior patterns of responsible, law-abiding, environmentally-sensitive riding, and they do a disservice to individuals who are trying to promote a responsible image. It will be important for ATV users to recognize this divide and attempt to bridge it if they are interested in gaining legitimacy.

Illegal ATV Use on Private Land

Illegal ATV use is not limited to state land; although the legal issues are slightly different, illegal ATV use occurs on private land as well. The legal framework for ATV use on private land is outlined above, in the Legal Issues section, but essentially someone may only ride legally on private land with the permission of the landowner. The large corporate landholders interviewed for this report have been reluctant to authorize public ATV use on their land, except by leasees. In some cases, these landowners have cooperated with enforcement officials—state police or Environmental Conservation officers—to prosecute illegal users. There have also been instances of recorded abuse on state lands accessed directly from private land, making private land management a direct concern to DEC staff, and making it imperative that dialogue about ATV abuse include private land managers.

Snowmobile clubs, in many places, have easements to travel over private land in the winter, but these easements do not extend to ATV use. Both large and small landowners who have granted snowmobile clubs permission to ride on their properties are concerned about ATV use. Since the increased popularity of ATVs, private landowners are posting their properties more vigilantly and calling for enforcement help more frequently because of the intrusion of ATV use. One of the implications of this is that access by snowmobiles on some properties may be endangered.

Opportunities for Legal ATV Use

Summarizing information presented in the Legal Issues section, above, the following are legal riding opportunities under V&T law and ECL.

- on the operator's own property
- on private land, with the permission of the owner
- on town roads that have been designated and posted for ATV travel, and
- on public land that has been designated and posted for ATV travel.

Specifically, in wild forests, use is permitted on roads that have been designated for ATV use, and in state forests, outside the Adirondack Park, on roads or trails that have been designated for ATV use²¹

- finally, there are a few other specific opportunities available to disabled individuals

Practically, this limits opportunities for legal use considerably. Within the Adirondacks, the only routes open to ATVs on state land are approximately 100 miles of roads in Region 6, in the Aldrich Pond, Watson's East Triangle, Independence River and Black River Wild Forests. Outside of the Forest Preserve, there are a limited number of designated trails on state forests, including Brasher Falls state forest, just north of the park. (State forests are areas under DEC's jurisdiction that are outside of the Forest Preserve. These amount to 700,000 acres statewide.) There are a few private commercial ATV facilities

in New York, located outside of the Park. There are no comprehensive maps of these riding opportunities, but the Lewis County ATV Association produces a map of ATV riding opportunities in Lewis County. The map shows town roads that have been designated for ATV use, as well as a limited number of roads in state forests. There are not many riding opportunities in Lewis County on private land. A few trails on the map extend into state land units in Herkimer, Oneida and St. Lawrence counties. These trails are, by and large, the roads in Region 6 wild forests that are currently open to motor vehicles.

This overall lack of legal riding opportunities has resulted in a sentiment among ATV users that they are under-served by New York State. See ATV Users' Perspective, on page 45 above, for more discussion of this topic. Some of the criticisms and concerns voiced by ATV users include: it is unfair that they pay registration fees and taxes without receiving riding opportunities in exchange; they should receive comparable services as snowmobiles; and with almost four million acres of state land in New York, more of it should be open to their chosen form of recreation.

The state is cognizant of these concerns. In 1998, when the Champion land deal was publicly announced, it was touted as a solution for some of these frustrations. The press release issued by the Governor's office announcing the deal said that:

The easement also will open up hundreds of miles of roads and trails for use by motor vehicles, including snowmobiles and all-terrain vehicles. An extensive series of roads and trails covering hundreds of miles on the property will be made available for motorized recreational access, where appropriate.(1998)

These promises to the ATV community have not been entirely fulfilled. There are currently approximately 30 miles of trails open to the public to ride ATVs in certain seasons on the easement property, but this is far less than some advocates had hoped or expected. The state fee portion of Champion Lands has not yet been classified, and the opening of the state fee land to ATVs is thus on hold, pending classification and the UMP. These slowdowns have frustrated some ATV users, who take them as further proof that they are underserved by the state. Yet the private land managers responsible for the recreational easement cite one reason for the slower-than-expected opening of trails to be less actual use than was formerly expected. On this topic, one manager reported that "the premise that this area had to be purchased for a pent-up need for recreational access has not been realized by use."

On the other hand, overuse of at least one road, the Mud Pond Road, in Aldrich Pond Wild Forest, recently forced its closure. The road, formerly open to all motor vehicles, had been open to ATVs (by a weight limit stipulation) for approximately five years when, in the fall of 2001, it was finally closed because of extensive erosion and resource damage.

Several DEC documents have dealt explicitly with the issue of legal riding opportunities on state land. A 1993 department-wide position statement on ATVs was approved by then-commissioner Jorling in May of that year. The statement endorsed the possibility of expanding recreational opportunities for ATVs, but only on reforestation areas within state forests and only when trail design and use met certain stipulations for environmental protection.

In 1998, when the Champion land deal was publicly announced, it was touted as a solution for some of these frustrations

Considering the balance of recreational demand and environmental protection on state forests, the position paper says:

Where these [recreational] demands can be accommodated without significant harm to the resource and within the multiple-use philosophy, the Department has traditionally met the demand. However, environmental concerns are paramount, as the Department is charged with stewardship of the land (Department of Environmental Conservation 1993).

The position paper includes specific guidelines on environmental considerations for ATV access suitability: appropriate soils, habitat and wildlife considerations, and design stipulations; restrictions on seasonal usage, as well as measures to avoid conflicts between user groups; steps to include ATV users in the creation of an ATV trail network; and guidelines for monitoring environmental impacts. Equally important to all of those guidelines, the position paper maintained that funding for an ATV trail network could not come from general DEC revenues, but rather from an alternate funding source, such as the bygone ATV trail maintenance fund. The position paper reflects an optimistic tone about the possibility of creating an ATV trail network on state forests, concluding, "It is the position of the Department of Environmental Conservation that ATV trails can be established, maintained and used with no irreversible environmental damage, provided that the design and use conform to the stipulations listed above" and it goes on to note the sizeable constituency of ATV users in the state who desire riding areas. However, it includes a number of provisions that, in practice, create significant obstacles to the creation of such a network.

A newer document, the Region 7 Draft Recreation Master Plan for state forests, sheds some light on current applications of the concepts in the 1993 position statement. The draft master plan, released in early 2002, considers the issue of expanding ATV access on state forests at some length. Several ATV trail systems have been open in the past few decades in region 7 for ATVs, some of them networks of up to 59 miles of trails, and a network of up to 100 miles was proposed. However, all existing trail networks have been closed, primarily because of excessive erosion and natural resource damage as revealed in trail assessment studies. The proposed network was withdrawn from consideration because of unresolved conflicts and problems, both technical and political.

The master plan includes extensive consideration of the challenges of establishing ATV networks on state forests and meeting the 1993 position statement stipulations on environmental protection. Most of the challenges listed in the master plan are addressed elsewhere in this report, but the master plan is an excellent resource for people interested in the issue of expanding ATV access.

One last DEC document that is relevant to this discussion is a 2001 memo that was circulated to Regional Foresters from Albany to clarify the guidelines for motor vehicle use in wild forests. The memo said that:

motor vehicle use in and of itself is not a program offered by the Department to the public in Wild Forest units. Instead, motor vehicle riding, being confined to roads by both the Master Plan and Department regulations [6NYCRR §196.1(b) and (c)], is a means by which the public can access programmatic

destinations such as fishing sites, hiking trails, hunting and trapping areas, and boat launch sites (Dunstan 2001).

The memo went on to emphasize that new roads can not be constructed on Wild Forests, that draft UMPs should propose ATV use in Wild Forests only on roads that are currently open for motor vehicle use, and that weight limits should not be used to provide an opportunity for the public to ride ATVs to the exclusion of other motor vehicles.

As this working paper is going to press (January 2003) the DEC is in the process of assessing the status of ATV issues in the forest preserve and considering the question of whether further policies related to ATVs are necessary. Readers of this paper who are interested in DEC policy should make themselves aware of new developments in this realm.

The issue of expanding legal opportunities for ATV use will be considered in greater length below.

¹² NYSORVA estimates that there are currently (2002) approximately 300,000 ATVs and off-road motorcycles in the state. This number is extrapolated from 1997 data from the Motorcycle Industry Council, which showed that in that year, approximately 22% of machines in the state were registered. Assuming that the fraction of vehicles actually registered has remained constant, NYSORVA concludes that there are over a quarter-million ATVs in the state at this point.

¹³ For specific legal wording and full details, consult Vehicle and Traffic Law Title XI, Article 48-B and 48-C, sections 2281, 2282, 2286, 2403-2410 and Environmental Conservation Law Chapter II, Sections 190 and 196.

¹⁴ Many towns in the park, legally or illegally, have some or all town roads open to ATVs. The Town of Horicon recently passed a law opening town roads, including some roads in the Forest Preserve that the town considers town roads, to ATVs. Because this raises constitutional Forest Preserve issues, state Attorney General Eliot Spitzer filed suit against the town.

¹⁵ Two dozen trails were visited for the express purpose of looking for evidence of ATV use; at least 16 showed signs of at least some use. All of the trails were located in wild forests, and most were designated snowmobile trails.

¹⁶ The names of the individuals interviewed for this report—DEC employees and others—are not being published, out of respect for their privacy.

¹⁷ Data from Shared Adirondack Park Geographic Information CD-ROM Mesosoils data. Mesosoils polygons were clipped by the boundaries of all state land classes except for administrative, and summarized by erodibility and drainage classifications.

¹⁸ One ATV dealer visited for this report distributed a snowmobile map when questioned about where someone could ride an ATV; another said that use on state land is legal as long as it is posted for use. This is technically correct, but the employer failed to mention that only a tiny fraction of state land roads—and no trails—are designated for ATV use.

¹⁹ DEC did not specify the beginning date for this figure, but suggested that it was a total for all reports since they began to keep records.

²⁰ Technically DEC law enforcement officials (rangers and ECOs) do currently have the

ability to impound ATVs. Several individuals who were interviewed for this paper, however, reported that the logistical difficulties and liability problems inherent to impoundment, coupled with the low fines levied on abusers, make the costs of impoundment greater than the enforcement payoffs.

²¹ These opportunities are available to the general population. Individuals with disabilities holding CP-3 permits issued by DEC have access to a number of roads in wild forests that are not open to ATV travel by the general public.

ENVISIONING THE FUTURE

ATV issues are not going to go away. That is the common sentiment of nearly everyone interviewed for this report. The growth in ATV ownership alone confirms that point. But more than just not going away, it is an issue that has the potential to escalate seriously, in terms of illegal use on public and private land, in terms of environmental damage, in terms of user conflicts, and in terms of political pressures and political conflicts. What follows is an attempt to frame the discussion concerning ATVs in future years and to attempt to steer interested parties towards a course of active management of these issues, as opposed to decision-making by default.

Unit Management Planning

The Unit Management Planning process, currently underway for many state land units in the Adirondacks, is a forum for many of these issues to come to a head, making this a critical stage in the future of the forest preserve. Some unclassified parcels will be classified in the course of this process, and the exact framework for motorized access to wild forest units will be defined. ATV users have been a strong presence at the public hearings for several of the wild forest units' UMPs. Their interest and participation stems, in large part, from the grassroots resentments explained earlier. There is a significant interest among these groups in expanding motorized access to state land, and their political involvement with the UMP process may shape the management decisions for wild forests in the Adirondacks.

The Unit Management Planning process is not only an opportunity for political decisions and public discussion, however; it is meant to provide a comprehensive analysis of the natural and physical resources of state land. For that reason, the UMP process presents an excellent opportunity for the public and land managers alike to learn more about the impacts of ATVs: to document the

This juncture of recreation management decisions based on ecological understanding gives rise to a host of complex and difficult issues, but addressing them in a well-founded manner is central to the purpose of the UMP process

status of trails that have been used illegally, to set priorities for restoration and maintenance, to better understand the ecology of state land units, and to establish a framework for future monitoring of these areas. Moreover, UMPs need to couple these assessments of use and resource damage with management decisions that will promote appropriate use of state land, minimize adverse environmental impacts, and uphold the spirit of the constitution and State Land Master Plan. The SLMP requires that UMPs contain comprehensive inventories and management objectives; the management objectives are required to preserve habitats, minimize adverse impacts, rehabilitate areas that have historically been overused, and regulate public use so that the carrying capacity of an area is not exceeded. This juncture of recreation management decisions based on ecological understanding gives rise to a host of complex and difficult issues, but addressing them in a well-founded manner is central to the purpose of the UMP process.

It is worth reiterating the “unifying theme” of the State Land Master Plan, which guides the UMP process, as well as land management on state land in the Adirondacks generally. This philosophy is that: “human use and enjoyment of those lands should be permitted and encouraged, so long as the resources in their physical and biological context as well as their social or psychological aspects are not degraded.” The balance of recreational access issues, therefore, cannot and should not be decided on political grounds if natural resources are being compromised. ATV access often creates very serious concerns about ecological damage, as has been discussed at length already. These concerns, given the legal framework of land management in the forest preserve, make an expansion of ATV access within the forest preserve a near-impossibility. More attention will be paid to the question of expanding ATV access below.

Unit Management Plans will not only address ATV issues by reinforcing—or making final—decisions about the limitations of motorized access. As mentioned above, they will provide natural and physical inventory data, set priorities for trail maintenance and rehabilitation, and identify impacted areas of concern for careful management and future monitoring. This process has the potential to increase dialogue internally and externally at the DEC regarding ATVs. Hopefully this heightened awareness will lead to meaningful consideration about the full range of issues associated with ATVs.

ATV Users as a Political Force

Many people make the comparison between the history of snowmobile groups and ATV groups, and wonder whether ATV users will gain the same level of organization, legitimacy and political clout enjoyed by snowmobile groups. Currently the two groups have quite different identities among the public and land managers, but snowmobile groups have been around for longer, and it may only be a matter of time before ATV groups attain the same level of organization.

The implications of a highly organized ATV user group would most likely include more pressure for trail networks, including networks connecting towns. Some people see this tide of pressure approaching, and are looking for ways to divert it—through education or the provision of riding areas—before it compromises the protections of the forest preserve. ATV users, on the other hand, believe that the environmental lobby has far more political power than they do.

The Question of Expanding ATV Access

Providing more places for ATV users to ride is an issue that comes up repeatedly in most work related to ATVs. Especially given the limited legal riding opportunities on state land in New York and in the Adirondacks, this is a central issue for many interested parties. And so one central question about the future of ATVs in the state and the region is whether the state will—or should -- make an effort to expand riding opportunities.

Arguments for the state to increase riding opportunities include:

- Fairness – As mentioned above, many ATV users and sympathizers resent the fact that owners pay a registration fee to the state and get little by way of services or access in return. In part, this resentment stems from the fact that half of ATV registration fees used to be diverted into a Trails Fund that funded few trails and was abolished in 1990. Another general argument about fairness is that state land should be open to the state's taxpayers and that they should have space to recreate as they choose.
- Environmental argument – Many people argue that setting aside a few wisely-chosen and well-designed areas for ATV use makes sense for environmental reasons in terms of diverting use from less well-suited areas.
- Limit illegal use – Many people, including members of the law enforcement community, believe that the creation of more legal riding areas would lessen illegal use on state and private land, and would allow enforcement to focus on the remaining illegal users, at the same time providing an alternative for enforcement to point to.
- Preemptive – Some people who generally oppose expanding ATV access believe that it is important for the state to work on providing access solely to take control of the situation in a controlled and cooperative way before the situation becomes more contentious. Specifically, some worry that if ATV groups gain greater organizational and political clout, it could jeopardize existing standards on limiting motorized access in the forest preserve.

Arguments against the state increasing riding opportunities include:

- Lack of responsibility – Many people dismiss outright the state's responsibility to provide access for all recreational uses. One person's decision to buy an ATV, this argument says, does not make the other taxpayers of the state responsible for paying for riding areas. People making this argument may point to the fact that the DEC manages only slightly more than a tenth of the land in the state. Another facet of this argument is that the laws limiting access by ATVs do not prevent those people from accessing state land; they merely set restrictions on types of use.

One central question about the future of ATVs in the state and the region is whether the state will—or should – make an effort to expand riding opportunities

- Legal riding areas are no guarantee – Many people question whether the creation of legal riding areas would genuinely reduce illegal use of state or private land. One, two, or even several legal riding areas would not provide local access to legal riding for a widely dispersed population, and people may continue to frequent illegal local areas.
- The environmental protection argument is flawed – Some who are worried about natural resource damage worry that, just as legal riding areas are no guarantee against illegal use, they are also no guarantee against environmental damage. Well-designed areas may provide a more sustainable area to ride, but they may not provide the kind of experience that more extreme riders are looking for. Those riders, some people believe, will continue to seek out opportunities for thrill riding, which is often environmentally destructive.
- Vicious cycle—Creating places to ride, some fear, would only popularize ATVs further, encouraging more people to buy them and thus creating demand for more areas, and generally strain the already-complex situation.
- Culture of use – Some people, who fundamentally disapprove of ATVs as a form of recreation, feel that the state should not make an effort to endorse motorized recreation.
- Technical questions—Even those who accept the general idea of expanding ATV access point out a number of logistical and political hurdles. These include: finding funding, finding a suitable location, dealing with the requirements of the state constitution and SLMP, designing trails well to provide environmental protection, and ensuring that trails would be funded for maintenance as well as just construction.

This report cannot provide answers to the fundamental ideological questions, but it can address some of the technical questions.

Creating legal riding areas: Issues and options

There are a number of challenges that would meet any state-led effort to create legal riding areas in the Adirondacks. The first would be overcoming the ideological objections listed above, but we won't consider those further here. The remaining challenges would include those listed under technical questions, above: where would it be, how would it be paid for, how would it be managed and maintained, and how would environmental damage be minimized. These issues would be similar whether the effort was led by state government, local government, or private groups, and whether the goal was to create one riding area or many.

Where would it be?

Within the Adirondacks, the protections ensured by the “forever wild”

clause make any significant expansion of motorized use on state land unlikely, if not impossible. Wild forests are managed to retain their “essentially wild character” and the only areas that can be designated for motorized use are roads. Furthermore, according to the SLMP:

Public use of motor vehicles will not be encouraged and there will not be any material increase in the mileage of roads ... open to motorized use by the public in wild forest areas that conformed to the master plan at the time of its original adoption in 1972.

This language makes the creation of a legal riding area of any magnitude in a wild forest to be essentially illegal. There may be piecemeal possibilities for opening access on short sections of road, but these would not constitute the kind of area that most recreation managers believe is necessary if ATV use is going to be permitted on public land.

The strong presence by ATV users advocating for access to state land at recent wild forest UMP hearings indicate that the riding public is not prepared to give up on the possibility of access within the forest preserve. Richard Earle, president of Franklin All-Terrain Riders, supports “sacrificing” a certain amount of Forest Preserve, maintaining that, “A narrow ribbon of hardened trail winding through the nearly 3 million acres of state land is unlikely to destroy the Forest Preserve” (Earle & Bauer 2003). Given enough organization, there is a slight chance that ATV groups could gain the political power needed to expand access in the forest preserve, but it would require such a significant departure from existing law and policy that it may well make sense for ATV advocates to focus their energy elsewhere.

One possibility that has been mentioned is that the state could acquire land inside the park boundary that would not be part of the forest preserve. There are legal and constitutional impediments to this solution. Article XIV of the state constitution and Environmental Conservation Law specify only extremely limited circumstances when the state may own land inside the park boundary that is not part of the forest preserve. This solution is essentially not feasible for the purposes of ATV access provision.

What, then are the other options? The answer boils down to: private land or state land outside the forest preserve.

The potential for expanding access on state forests was addressed to some degree above, on page 50. Useful resources on this topic include the 1993 DEC position statement on ATVs and the 2002 Region 7 Draft Recreation Master Plan. In summary, the 1993 position statement accepted the idea of expanding ATV access on state forests in theory, given suitable environmental conditions and adequate trail design assurances. Region 7 (in central New York), however, has decided that these obstacles are too formidable for further consideration of providing ATV access trails. Other regions planning recreational uses for their state forests may come to the same conclusion.

Brasher State Forest, just north of the blue line, is a nearby example of ATV access on state forest land. Several years ago, responding to interest from local

What about the possibility of expanding ATV access on private land? This is a genuine possibility, but it, too, poses serious challenges

groups for multiple-use trails, the DEC opened between 30 and 40 miles of trails in the forest to ATV use, without putting much advance thought into trail hardening, design, or ecological considerations like avoiding wetlands. The ATV use that resulted caused a large amount of erosion and environmental damage, and many of the trails have subsequently been closed. It is important that any future expansions of access include a significant amount of evaluation and suitability consideration to avoid similar mistakes being repeated. This is especially important in light of the lack of funding available to perform maintenance on trails that have been damaged by inappropriate ATV use.

What, then, about the possibility of expanding ATV access on private land? This is a genuine possibility, but it, too, poses serious challenges. It could be accomplished either without any state intervention, as a completely private access area, or as a state-negotiated recreational easement on private property. Generally, private landowners are wary of opening their land to public ATV access, although some are less wary than others. Several large landowners or managers interviewed for this report cited a similar list of concerns regarding recreational access. They included:

- Risk management and liability concerns
- Difficulty in controlling where ATVs go
- Damage to roads and valuable timber
- Existing leases for access by hunting clubs, etc

While private landowners' senses of the seriousness of these issues varies, there is a general consensus that adequate compensation, protections against liability and some strong measure protecting against rampant off-trail or unauthorized use, would need to be established before private landowners would be willing to consider opening their lands to access.

Many of these landowners allow snowmobile access, but perceive ATVs to be a more challenging use because of their ability to go anywhere. Moreover, the landowners are looking for signs of greater organization and accountability among ATV users than they feel exists at present. Several cited a general sense that ATV organizations would need to be able to show stronger leadership and cohesion before they would trust them on their land. Several local attempts by ATV users to organize strong groups may lay the foundation for this in the future.

The wariness of private landowners is interesting in terms of the public vs. private burden of providing ATV access. One conclusion could be that ATV groups simply need to prove themselves more organized and responsible before either public or private entities will consider expanding access.

How would it be paid for?

The proposed legislation that would re-establish the trails fund, or alternate legislation directed at a comparable end, would provide a possible source of funding for trail creation and maintenance. As mentioned earlier, in some states the state equivalent of New York's DEC handles ATV registration funds, and in New York, the OPRHP receives money from snowmobile registrations. Other sources of funding, including federal funds, were discussed above, on page 27. User fees could also be appropriate, depending on the circumstances.

Regardless of the source of funding, it would be critical that sufficient funds were allocated for all stages of development and design, construction, maintenance, management and enforcement. The provision of legal riding areas is a costly undertaking, as the examples in the national section, on page 11, illustrate. The experiences of land managers in New York suggest that the costs of implementing a trail network here would be similar to those experienced in the Allegheny National Forest in Pennsylvania. In limited experiences here, land managers have found that the costs of upgrading roads to accommodate ATV use figure at approximately \$20,000 per mile, and the costs of annual maintenance on these roads are an additional \$1,000 - \$3,000.

What would it look like?

A well planned and designed riding area averts many of the potential environmental and enforcement problems experienced in poorly suited or improperly designed areas. The key components of a well-designed trail system, according to experts, are choosing environmentally suitable areas with relatively stable soils, providing enough trail mileage for interesting riding options, and designing and constructing the actual trails well. Most planned ATV trails are essentially narrow roads with stable, hardened gravel beds. There are ample resources on this topic; see the American Motorcycle Association guide to constructing ATV trails, “Off-Highway Motorcycle & ATV Trails Guidelines for Design, Construction, Maintenance and User Satisfaction.” Another good resource is the National Forest Service, which has specifications for ATV trails.

Land managers with experience in ATV trail networks emphasize the importance of providing enough trail mileage to prevent people from going off-trail in search of more interesting riding. Estimates of adequate trail mileage for a network range in the 40-60 mile range, with loops to provide a variety of options.

How would it be managed and maintained?

The particulars of this would obviously depend on the chosen location and management scenario. But a careful plan about both management and maintenance would be vital. Managers in other states emphasize that intensive management is continually needed to maintain a viable trail network and alleviate damage, problems, and conflicts. Maintenance is critical for avoiding environmental damage and for general infrastructure upkeep. Neither management nor maintenance is cheap or easy. Ideally, ATV users would be active participants in these processes, lending strong physical support to maintenance projects as well as leadership on management issues.

How would environmental damage be minimized?

As mentioned above, the general consensus among land managers is that careful planning and trail design and construction are critical in avoiding widespread environmental damage. Other important factors include: adequate signage, education and enforcement to keep riders on trails, adequate maintenance to fix problems before they are exacerbated, and thoughtful attention to seasonal closures necessitated by trail conditions or animals’ breeding or nesting seasons.

DEC, together with LandVest, managers of the Champion recreational easement lands, have been working to develop criteria for trails on that property to

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be opened for public use, taking some of these environmental considerations into account, in addition to safety and other issues. A comprehensive set of environmental criteria should be incorporated into any effort to open recreational easement properties to ATV use.

Communication and Management of ATV Issues

Regardless of whether or not legal ATV access is expanded, there should be a tighter network of communication between the various players involved in ATV issues. These include:

- ATV Groups
- ATV Users
- ATV Dealers
- ATV Manufacturers
- Snowmobile Groups
- Local government officials
- State government representatives
- Tourism industry representatives
- Land managers from other states
- DEC Rangers, ECOs, Planners and Operations staff
- Adirondack Park Agency Staff
- State Police
- Local justices
- Private land owners and managers
- Environmental organizations
- Researchers
- Department of Motor Vehicles
- Sportsmen and other recreationists

Forums for communication could include specialized training and education events, joint planning sessions, and conferences, seminars or workshops. In particular, there appears to be a need for more communication in general between ATV groups and land managers, more focus on multilateral enforcement, and more outreach to players such as dealers, town justices, and local government officials.

It is unlikely that anyone's goals concerning ATV issues will be met satisfactorily in an atmosphere of contention and friction. Enhanced communication can only serve to increase mutual awareness among all parties and advance fair, environmentally sensitive, legal, appropriate solutions to existing problems.

The Role of Education in the Future of ATV Issues

Education may be the best alternative available in terms of reducing the burden on enforcement, on those considering ways to provide access, and on those worried about the safety issues associated with ATV use. The public, especially young people, should be better informed about the environmental damage caused by ATVs as well as the safety hazards they pose. In both the long and short terms, various kinds of education are needed to create awareness; these may yield the only sustainable options for the future.

- Environmental education may be the most powerful antidote available to

the man and machine vs. nature divide. General environmental education should be more widely taught, giving students an appreciation for the natural world, native species and habitats, and the role of humans in natural systems. Many programs currently exist for environmental education in northern New York, but there is potential for these concepts to reach a broader audience. Students and adults with an appreciation for the complexity of ecosystems are unlikely to flagrantly abuse them with ATVs. Likewise, it is important that the environmental impacts of ATVs are more widely publicized and taught.

- Safety education is another important element of the education equation, considering the safety risks of ATVs. At present, young people under the age of 16 need to complete a safety course to be permitted to ride without adult supervision on lands other than those owned by their parents. This program could be expanded, and could be linked to other forms of ATV-related education—particularly environmental and legal. Local ATV user groups have begun to try to raise safety awareness, encouraging safe riding practices.
- Legal education is critical to this issue. The complexity of laws governing legal ATV access should not be a defense against illegal use. Better public understanding of these laws would, hopefully, improve both compliance and strategies for enforcement.
- Community education should be a part of a comprehensive education strategy. This would include several components. Local communities and local government representatives should understand the environmental and psycho-social impacts of ATVs, the laws governing legal access, and the perspectives of advocates for and against ATV access on public land. They should also understand the unit management planning process and know how to be involved in it. Lastly, they should understand how to report violations to DEC dispatch to facilitate effective enforcement.
- Education is needed for key players to ensure that there isn't misinformation circulating, and that laws are consistently applied. DEC should work with ATV dealers to promote the distribution of accurate information, and should provide training for town judges on ATV regulations and their importance, including the environmental impacts of ATVs, to promote stronger and more unified enforcement efforts.
- User group education should include many of the components mentioned above. There is already an awareness among the more responsible members of the ATVing community that its public image and future access to public and private lands hinges largely on the behavior of members of the community. This is a powerful tool in teaching the legal and environmental issues of ATVs, and in involving clubs and community-members in doing this education themselves. Clubs should ultimately have an active role in perpetuating the message of responsible use. Similarly, the vast majority of the ATV user community must ultimately achieve a state of willful compliance with regu-

lations in order for the situation to be truly under control. This will only be achieved through education and self-policing among the community.

As with many forms of education, these steps seem costly and time-consuming, but they have the potential to save taxpayers and the public a great deal of money and environmental quality in the long run. Education has the potential to be the only genuine solution to the complex issues raised in this report. The challenges of enforcement, environmental remediation, user group conflict, and provision of access will not be conquered through education alone, but they certainly can be minimized. Organizations and state agencies concerned about the issues associated with ATVs should rank education among the highest priorities for action, and should determine appropriate and effective channels for education to begin immediately.

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MANAGEMENT OPTIONS

Many of the issues discussed in this report are complex and multi-faceted. Management of ATV use is not easy; in fact, nearly to a person, those interviewed for this report commented on this being a tough issue. Hopefully, however, the information presented here helps to break down the issues, clarify misconceptions, and give the public, government officials and land managers alike information useful for an informed dialogue.

What follows, in closing, is a summary of management options that exist surrounding ATV issues. Some have been discussed at length already in these pages, and others are presented as additional ideas for public consideration. The items on this list should be interpreted as possibilities, not recommendations. In no particular order, they include:

- The state could amend Environmental Conservation Law to define ATVs separately from motor vehicles. This could help to clarify the legality of ATVs on state land.
- DEC could hold a training workshop with local justices on ATV issues. This has been a repeated recommendation of the Forest Preserve Advisory Committee.
- ATV tickets could be tracked more carefully, with ATV-specific data collected on violation types, details, and dismissal or fines; the results should be collected and incorporated into management strategies.
- The DEC could encourage the public to call in ATV violations to improve enforcement efforts.
- The DMV could incorporate more legal training and environmental education into the ATV safety course required for minors.
- The DEC and DMV could cooperate to publish a guide on legal riding opportunities and access limitations to be distributed at dealerships and through ATV organizations.

- Land managers could work more closely with ATV users through education and outreach to attain a condition of willful compliance among users regarding state land issues
- Interested parties could consider appropriate expansion of legal riding opportunities, as discussed above
- The DEC and DMV could enhance outreach programs to ATV dealers to emphasize the importance of accurate information regarding ATV access issues. If stronger measures are needed, the state could consider a bill similar to one passed in Suffolk County, which mandates truth in selling for ATV dealers.
- If ATV users fail to demonstrate a greater level of self-policing through cooperative and educational efforts, stronger penalties could be levied for illegal ATV use. These could include higher fines or fines linked to public resource damage, or a heightened risk of ATV impoundment in the case of illegal use. New Jersey's struggle with this issue would be one place to look for ideas on this subject.
- The Trails Fund for ATV registration fees could be reestablished, and funding for ATV access reconsidered.
- Enforcement could be strengthened through emphasis on multilateral action by different branches of law enforcement, including local justices.
- Communication between various players could be strengthened, as discussed above.
- Education could be improved for all players and all segments of the public, as discussed above.
- Environmental impacts of ATVs could be studied more closely through the collection of more accurate and thorough trails survey information.

These options do not spell out a clear route towards resolution of the many issues surrounding ATVs in the Adirondacks, but they may animate and inform those interested in advancing a more productive dialogue concerning this complex and challenging topic.

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