

TUG HILL REGION ATV ECONOMIC IMPACT STUDY

COOPERATIVE TUG HILL COUNCIL



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camoin associates
ECONOMIC DEVELOPMENT

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Executive Summary

In June 2005, the Cooperative Tug Hill Council commissioned Camoin Associates (CA) to conduct an economic and fiscal impact assessment of All-Terrain Vehicle (ATV) activity in the Tug Hill Region. CA performed extensive research, conducted numerous interviews, and hosted focus group discussions with Tug Hill stakeholders to obtain quantitative and qualitative findings. CA, with the assistance from the Center for Community Studies of Jefferson County Community College, also conducted mail and trail intercept surveys to obtain information about ATV riders and their spending patterns. Preliminary results were presented to the public in September for feedback.

A summary of the findings and recommendations generated from this study can be found below and in detail in the full report. It is important to note that the results of the impact sections of the report are limited to only those items that are quantifiable in terms of dollar amounts. CA recognizes that there are other impacts of ATV use in the Tug Hill Region that are qualitative in nature or cannot be assigned a dollar figure, such as issues related to environmental preservation, noise pollution, public sentiment, private property rights, etc. Given the limited scope of this study, we encourage governmental leaders to use this report as one perspective on ATV use in the Tug Hill Region in the context of a larger public policy debate that includes other information and perspectives.

Best Practices

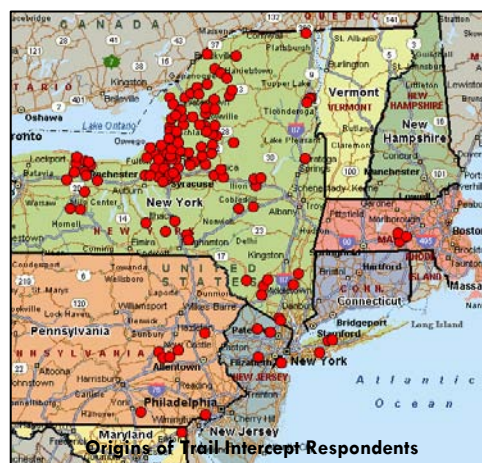
As part of its data collection process, CA reviewed a number of private and public trail management systems throughout North America to identify any “best practices” currently being employed in relation to ATV use. Some of the best practices researched for this report include: enforcement, safety, trail maintenance, building community support and avoiding problems such as trespass and property damage. The objective of the best practices research was to identify what has been working for communities around the United States and Canada. Initiatives like TrailPass in New York, Paiute Trail in Utah, Hatfield McCoy in West Virginia, and the state of Maine have all attempted to be proactive in addressing ATV use. Although not immune to adverse effects associated with ATV use, these places have successfully used innovative methods to address various ATV-related issues.



A thorough discussion of the best practices found in the study can be found in Section 6 of this report. Those best practices that are most relevant to the Tug Hill Region are highlighted in the “Recommendations” section, below.

Economic Impacts

CA performed an economic analysis to understand how non-resident ATV-related spending impacts the regional economy. Data on ATV spending, obtained through the trail intercept surveys, was analyzed to determine the total net new spending that occurs in the Tug Hill region as a result of ATV use, which is classified as the “direct” economic impact. Based on its research, CA estimates that the total direct impact of ATV use on the Tug Hill economy includes \$23.1 million in sales for local businesses, supporting employment of 564 individuals who earn \$7.9 million in wages.



The second phase of the impact study was to enumerate the indirect and induced impacts that result from the \$23.1 million of new sales in the economy. The indirect impacts include purchases by local businesses from other Tug Hill region producers of goods and services. These local businesses also pay wages to their employees, who spend a portion of their earnings in Tug Hill. These expenditures are categorized as the “induced” impacts on the Tug Hill Region. The indirect and induced impacts of ATV use increase sales by \$12.2 million, supporting employment for 137 individuals who earn wages of \$3.5 million.

Total Impact of ATV Use on the Tug Hill Economy				
Description	Direct	Indirect	Induced	Total
Employment	564	50	87	701
Full-Time Equivalents	297	27	46	369
Wages	\$7,885,011	\$1,340,186	\$2,140,798	\$11,365,995
Output	\$23,067,118	\$4,940,743	\$7,243,354	\$35,251,215

The total economic impact is the sum of the direct, indirect, and induced impacts. The total economic impact of ATV spending in Tug Hill is approximately \$35.2 million supporting employment of 701 individuals. However, these jobs include full-time, part-time and seasonal jobs. Adjusting for this fact, the total number of full-time equivalent jobs supported by ATV use is 369.

CA explored what would happen, in terms of economic impacts, if ATV activity increased in the Tug Hill Region. To do so, CA projected impacts of a hypothetical scenario involving a 25% increase in ATV trips to the region by non-residents, and a 25% decrease in trips that residents currently take to areas outside the Tug Hill Region. Under this scenario, the additional economic impact would be \$14.1 million, supporting total employment of 284 individuals. In terms of full-time equivalent jobs, this equates to 147 additional positions.

Increase in Sales, Employment and Wages				
Category	Direct	Indirect	Induced	Total
Employment	227	20	36	284
Full-Time Equivalents	102	17	28	147
Wages	\$3,148,712	\$527,762	\$869,934	\$4,546,408
Output	\$9,261,347	\$1,923,892	\$2,943,393	\$14,128,632

Fiscal Impacts

CA also conducted a fiscal impact analysis to assess ATV-related government revenues and expenditures in Tug Hill, focusing on the four counties encompassing the region. CA estimates that the quantifiable fiscal benefits of ATV use in the Tug Hill region are approximately \$1.49 million, which includes new revenue associated with ATV use from sales, occupancy and property taxes.

Summary of Quantifiable Fiscal Impacts	
Sales Taxes	\$907,165
Occupancy Taxes	\$106,086
Property Taxes	\$472,500
Net Impact	\$1,485,751

Government expenditures related to ATV use appear to be minimal. However, according to discussions with law enforcement officials, to properly address the enforcement issues related to ATV use, the four counties would likely have to spend a total of \$1.6 million annually on dedicated ATV police patrols. Also, the fiscal costs could climb significantly higher if the counties began addressing environmental damage associated with ATV use; these costs are not currently known.

As with the Economic Impact section of the report, CA then assumed the same hypothetical example of a 25% increase in ATV use and explored the fiscal impacts of this scenario. Based on the data, CA estimates that total local tax revenues would increase by approximately \$476,000. Local sales tax receipts would increase by approximately \$409,000 annually. ATV enthusiasts would account for roughly \$1.1 million in increased spending at hotels and motels, generating an additional \$35,989 in bed tax receipts for the four counties. In terms of property taxes, this 25% increase would likely generate an additional \$31,000.

Changes to Quantifiable Fiscal Impacts	
Sales Taxes	\$408,806
Occupancy Taxes	\$35,989
Property Taxes	\$31,000
Net Impact	\$475,795

Other Impacts

There are issues inherent to ATV use that are more difficult to quantify than the economic and fiscal impacts described above. These issues include both positive and negative externalities including noise pollution, increased tourism opportunities, the spread of invasive species, property damage, enhanced infrastructure capacity and a host of other issues. While difficult to calculate in financial terms, these items need to be taken into

consideration by public policy makers when discussing ATV-related issues. A detailed discussion of these non-quantifiable impacts can be found in Section 5 of the report.

Trail System Costs

CA examined the potential cost of establishing new ATV trails in the Tug Hill Region under four different scenarios. All four examples used the same assumptions regarding construction, management, environmental mitigation, and liability insurance costs for 40 miles of trails. For details of these costs, refer to Section 7 of the report.

The first example assumed a single county in the region would site, construct, finance, and manage a new 40-mile trail system, while users would be charged an annual fee of \$25 to access the trails. Based on these costs, combined with potential fee revenues, this trail system would have an annual cash shortfall of \$273,568.



The second example assumed the County would enter into a cooperative agreement with one or more ATV clubs and/or private land owners wherein 30 miles of the trail system would be privately owned, and 10 miles of publicly held trails would serve to connect these private trails. As such, the County would subsidize trail construction and management, but private entities would assume the balance of construction costs and provide volunteer labor to perform annual trail maintenance. Based on this scenario the trail system would have an annual cash shortfall of \$245,773.

The third example details the costs of a private trail system with limited public funding. In this example, private entities would construct, insure, manage, and maintain the entire trail system, which would be cited on private land. However, the host county would contribute \$275,000 for construction, and \$100,000 for annual maintenance and oversight. Based on these costs, the County would realize an annual cash shortfall of approximately \$120,000.

Summary of Potential Trail System Costs

Description	Annual Subsidy Required
Public Trail System	\$273,568
Hybrid Public-Private Trail System	\$245,773
Private System with Limited Public Funding	\$119,978
Networked Off-Road System	\$343,568

The fourth and final example involves a networked system of off-road sites that are constructed primarily on public reforestation lands. The individual sites, with a combined total of 40 miles of trails, would then be connected using existing rural town and county roads specifically designated for this purpose. The County would incur the full costs of

constructing and operating the trails and would not charge a permit fee. This system would have an annual shortfall of approximately \$343,000.

Based on these three scenarios, a private trail system that is publicly subsidized seems to be the most cost effective option. Although the host county would likely incur the expense of an annual subsidy, it would also realize increased ATV-related tourism by making this investment. As such, the county would benefit from increased visitor spending, providing additional economic and fiscal impacts. Additionally, with a private system, the County would avoid difficult management issues associated with public trail systems, such as conflicts that would occur with other users (hikers, hunters, etc.) if the trails were cited on public land.

Recommendations

The final phase of this analysis involved synthesizing the various findings of the study into a set of recommendations to the Cooperative Tug Hill Council for future implementation. These recommendations borrowed heavily from the findings of the “Best Practices” section of the report and represent options that the Council can act upon to address concerns from stakeholders on both sides of the ATV debate.

- **Concentrate resources for adequate ATV enforcement** – There is general agreement that enforcement of proper ATV use in the Tug Hill Region is key to dealing with other issues, including public opposition, environmental damage, safety concerns, etc. and should be one of the top priorities for action.
- **Take steps to make enforcement easier and more cost effective**
 - Tie ATV registration to other types of outdoor sporting permits, such as fishing, boating and hunting, such that an ATV violation would jeopardize the other permits.
 - Change the location and visibility of license plates and registration numbers for easier identification of an ATV.
 - Encourage legislative actions to (a) allow photographs of ATV violations to be sufficient for issuing a fine, (b) clarify the exact legal status of ATVs on public roads, and (c) limit the liability of landowners with respect to ATV-related lawsuits.
 - Increase the fines for ATV violations.
 - Increase ATV registration fees and devote a portion of those fees to an ATV-enforcement fund.
- **Take care when siting any new ATV trails** – Proper siting of trails can mitigate a number of other potential issues and concerns.
 - Site trails on private land to the maximum extent possible.



- Concentrate new ATV trail development in a limited area to maximize fiscal impacts and to minimize any “crowding out” of other types of activities.
- Build high-quality trails to reduce future maintenance costs and to avoid ecological damage.
- Use an open and exhaustive public input process to allay concerns, build consensus and ensure the long-term success of a project.
- Site trails, where possible, on the least environmentally sensitive land, including land that has already been damaged or is not in pristine condition.
- Where possible, develop trails that have limited access to entry/exit points for ease in monitoring and enforcing use.

■ **Target ATV clubs and families when promoting ATV use**

- ATV clubs have a history of maintaining trails with volunteer labor, providing a certain amount of self-enforcement and bringing a community-centered aspect to ATV use.
- Families typically have higher spending profiles than non-family riders, and are less likely to be involved in ATV violations.

A complete set of recommendations and explanations can be found in Section 8.

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Introduction

Project Goals

As a result of a substantial increase in ATV use over the last ten years in the Tug Hill region, the region's local governments and Councils of Government organized interested parties into a forum to identify pertinent issues and to begin developing cooperative solutions. The outcome of the first ATV Issues Group meeting, held in December 2004, identified the need to understand the true economic benefits and costs of ATV activity as a critical next step in the process.

To conduct this study, the Cooperative Tug Hill Council (CTHC), one of the partners in the ATV issues group, hired Camoin Associates to:

- Identify and illustrate the social, economic and resource costs and benefits of recreational ATV use in the Tug Hill Region.
- Use standard economic modeling to demonstrate the impacts of the use of ATVs on the economy of the region.
- Determine the net positive or negative financial contribution of ATV use to the Tug Hill Region by examining the tax revenues generated and public expenditures necessitated by ATV ridership.
- Research and present solutions being utilized by other ATV groups throughout the country to address key ATV-related issues.
- Identify potential gaps in the infrastructure, marketing and business development process that may limit the market and economic potential of ATV recreation on the Tug Hill Region.
- Provide CTHC with recommendations to address a number of ATV-related concerns identified by the ATV Issues Group, including certain issues related to safety, enforcement, ATV trail management, and other related issues.

Methodology & Scope of Work

ATV Trail Intercepts and Surveys

Camoin Associates created a user survey instrument to capture essential information on ATV riders. The primary objective of the survey was to help quantify the impacts of ATV use in the Tug Hill region and make recommendations about how to improve the ATV riding experience. The survey captured the following information: place of residence, income, duration of visit, spending patterns, demographic and economic profile, reasons

they chose to recreate in the Tug Hill region, and information on other activities they participate in before, during and after ATV use.

Respondents were also asked open-ended questions about their perceptions of ATV use and amenities in the Tug Hill Region, positive/negative aspects of their experiences and improvements that could be made to encourage them to return and/or increase visit duration. The survey was drafted in cooperation with the CTHC and Jefferson Community College's Center for Community Studies (CCS) to gather input on format and content. A copy of the survey instrument can be found in the appendices.

In order to obtain a representative sample of ATV users, Camoin Associates sub-contracted with the CCS to administer the survey on four different days over the normal ATV season at various trail and entry/exit points within the region. The dates and locations were as follows:

- July 9th, 2005 – Louie's in Barnes Corners; Marty's in Houseville; Flat Rock Inn
- July 16th, 2005 – Altmar ATV Pig Roast
- July 30th, 2005 – Marty's; Montague Inn
- August 13th, 2005 – Harrisville ATV Rodeo and Flat Rock Inn

(Respondents were assured that all individual survey responses would be kept confidential and only shared at the aggregate level.)

In addition to the four trail intercepts, CCS conducted a mail survey of ATV users obtained from lists provided by the CTHC. This survey provided additional depth in terms of descriptive statistics of ATV users and narrative responses to open-ended questions on their perceptions and attitudes.

CCS, in conjunction with Camoin Associates, compiled all survey responses into a database and analyzed the results. The analysis includes a map illustrating user/visitor origins, descriptions of the frequency of certain characteristics (e.g.: percentage of riders between 18-25, average daily expenditures on food, participation in other activities, average distance traveled, etc.). It also includes multiple cross tabulations to understand the relationships between the various economic and demographic characteristics. These results are detailed in Section 4 of this report, and serve as the basis for the economic impact analysis.

Surveys of Business Owners Serving ATV Users

To complement the interviews described above, CCS (under the direction of Camoin Associates), administered a mail survey to business owners in the Tug Hill region, including ATV dealerships and repair services, gasoline/convenience stores, hospitality services and other general retailers. The objective of this survey was to capture the percentage of sales associated with ATV use as well as items regarding the seasonality, impacts and

infrastructure needs of ATV-related activity. This survey process provided an opportunity to record divergent perspectives, identify development opportunities and ask for input on potential improvements the region can foster that would enhance the ATV climate and maximize the economic impact on the region.

Literature Search / Stakeholder Interviews

Camoin Associates conducted a thorough literature search to identify similar studies performed on ATV and related recreational use in similar communities throughout the United States. The results of these studies are summarized and findings applicable to the Tug Hill Region are highlighted throughout this report. This research confirmed the results of the ATV User Survey and ATV Business Owner Interviews as well as provided additional information on the size of the potential ATV-user market that could be tapped into by the region.

Camoin Associates also conducted interviews with Department of Environmental Conservation (DEC) officials, law enforcement agencies, forest ranger personnel, professional trail builders / trail managers, environmental conservation groups, and other individuals throughout the project. The objectives of these interviews were to obtain divergent viewpoints about ATV use in different regions across the United States; identify the most important issues affecting ATV policy from a regional context; and obtain clear financial estimates about trail management and build-out costs in various public and private riding areas.

Focus Group Discussions

Camoin Associates conducted focus group sessions during this data collection phase of the project. The first session included those individuals that have concerns with ATV development in the Tug Hill Region. The focus group provided a forum to allow these individuals to express their concerns about ATV use and associated impacts. A follow-up focus group meeting was held with additional individuals that had concerns about ATV use.

Another focus group meeting involved individuals that actively support increased ATV activity in the region. During this session, participants were asked to respond to the concerns voiced in the first focus group and to provide suggestions and solutions, where possible, to the negative impacts identified. They were also asked questions regarding potential improvements to the region that would attract increased ATV use and associated spending as well as suggestions for mitigating the negative impacts of additional ATV activity.

Economic Impact Analysis

Given our understanding of the local and regional economy, and based on the results of the survey of ATV users, Camoin Associates performed an analysis using the IMPLAN input-output economic modeling system. This modeling system used Tug Hill Region-specific data on the interconnectedness of tourism and other industries to understand how additional

spending brought into the area by ATV use affects the region's economy. It also relied on the "basket of goods" that the average ATV user purchases per day in the local economy as shown by the ATV User Survey results.

The economic impact analysis detailed the amount of spending by **non-resident** ATV users in the Tug Hill region. This spending was estimated and analyzed to determine how many "new dollars" flow into the Tug Hill region by ATV usage. This spending leads to increased sales for businesses, which in turn impacts their suppliers. As sales increase, these businesses create new jobs, and these employees spend a portion of their wages in the region. The economic impact of ATV use in the Tug Hill region refers to these increased sales, and the associated jobs and wages.

ATV spending was analyzed to determine the total net new dollars of spending that occurs in the Tug Hill Region as a result of ATV use, which is classified as the direct economic impact. IMPLAN was used to calculate indirect impacts (spending by businesses serving ATV users that make purchases in the local economy) and induced impacts (employees of ATV-serving industries spending their earnings in the local economy). The effects were aggregated into total economic impacts. The economic impact study returned values of total sales, jobs and earnings created within the Tug Hill Region as a result of ATV use.

IMPLAN also identified which industries are most heavily affected by ATV use, and estimated sales, earnings and jobs in the Tug Hill Region by major industry sector.

Fiscal Impact Analysis

Camoin Associates estimated certain fiscal impacts of ATV use on the four counties of the Tug Hill Region. This analysis focuses specifically on the fiscal resources of these counties, and does not address the impact to specific towns.

The ATV-related spending highlighted in the economic impact section was used to estimate sales tax revenue generated by ATV use and received by the Tug Hill Region's County governments. Additionally, the incidence of secondary residence ownership among ATV users was captured through the ATV User Survey and analyzed for its contribution to the financial position of the counties.

The costs of providing ATV-specific government services are also presented in this report. These services include costs associated with regulation of ATV use, police enforcement, property damage remediation (where applicable), development and maintenance of ATV trails and access points, etc.

Other Impacts

Based on meetings with the Tug Hill ATV Issues Group, certain other qualitative impacts were studied. These impacts include those concerning the environment, increased tourism opportunities, landowner liability, regional name recognition, trespass, and other positive/negative impacts.

Best Practices & Recommendations

A major focus of this study examines what other areas across the United States and Canada have done to establish new ATV trail management systems, maximize public benefit, and mitigate public concerns over the ATV use. This research involved studying documents, regulations, land use plans and trail siting as well as interviews with leaders in other communities with intensive ATV use.

Camoin Associates used that research to make recommendations / provide further information to the Cooperative Tug Hill Council on the following items:

- Trail management on public and private lands;
- Public participation;
- Enforcement mechanisms;
- Environmental mitigation / Property damage;
- Landowner liability;
- Mixed-use trail policy;
- Trail grant programs;
- Trespass;
- Safety.

In addition, Camoin Associates used the results of the various impact studies to provide recommendations that will allow the region's local governments and residents to objectively understand the major environmental and financial issues impacting ATV use in the four-County area. Recommendations include types of worthwhile public investments, industries to encourage and develop to meet ATV demand, mitigation of the negative fiscal impacts identified, methods to use to maximize visitation expenditures, etc.

Overview

This study attempts to address ATV use in an objective manner, outlining the economic, fiscal, social, and environmental impacts of ATV use. This report is not an attempt to “bridge the gap” and reach a consensus on the role of ATVs in Tug Hill. While CA does not advocate any particular public policy, this report can serve to inform stakeholders involved in the policy debate.

The following paragraphs provide a brief background of the Tug Hill region in terms of landmass, demographics, geography and the economy. While not directly linked to ATV use, this information will allow the reader, who may not be familiar with the Tug Hill region, to gain a better perspective of the area and its challenges today.

The Growth of ATV Use

Over the past decade, ATV sales in New York State have increased dramatically, while the number of legal riding opportunities have not. ATV riders argue that some public land and trail funding should be set aside for ATVs, giving everyone an opportunity to enjoy the outdoors. On the other hand, many non-ATV riders express the feeling that all-terrain vehicles do not belong in parks and forestlands and should be barred from these areas. Not surprisingly, there is considerable debate over the role of ATVs on public lands.

To date, funding for ATV-related issues has been virtually non-existent in New York State. There has been little attention paid towards establishing new legal riding areas, and there are few resources to deal with issues pertaining to the environment, safety, enforcement and trail management. In the end, ATV riders are frustrated by the lack of available land to ride on¹, communities are having a hard time mitigating issues inherent to ATV use, and law enforcement officials are overwhelmed and unable to properly enforce regulations relating to ATV use.

In the spring of 2005, the New York State Legislature allocated \$850,000 for an ATV trail fund from revenues generated by ATV registration fees. However, there are no provisions that allow this funding to be spent. ATV enthusiasts have advocated the release of these funds, arguing that the state has not fulfilled its obligation to support the establishment of legal riding areas. ATV enthusiasts (particularly in Tug Hill) also suggest that their sport increases tourism and spending in a predominately rural area, significantly impacting the local economy. As such, ATV groups argue that the state should be more supportive than is currently the case.

In reality, most ATV riding in New York State occurs on private land. However, according to ATV clubs, there are still not enough riding opportunities to address the growing popularity of the sport. ATV enthusiasts in New York and elsewhere are increasingly

¹ In the Tug Hill region, much of the existing “trail network” is on public roads.

attempting to develop trail systems that provide for longer and more enjoyable legal trail riding experiences than are currently available.

Since the late 1980's and throughout the 1990's, public and private organizations across the United States have been developing ATV trail systems and parks to accommodate the fast growing sport. Some areas have successfully built trail riding areas, annually drawing thousands of ATV riders. Others have encountered significant obstacles.

There are many factors that contribute to the success or failure of a trail management system. Some of these factors are easily visible and can be controlled in an effort to drive the initiative forward – an example being public participation. Other policies, including obtaining resources for proactive enforcement or trail management can be more difficult to achieve. Further still, there are variables which are extremely difficult or cost prohibitive to change, such as soil composition. Overall, organizations and entities that have successfully established a trail management system have utilized their strengths, and attempted to mitigate their weaknesses.

Population

The Tug Hill region consists of 41 towns containing 21 villages. With about 50 people per square mile, the Tug Hill region is sparsely occupied. In total, the population of Tug Hill is comprised of a little more than 100,000 people who reside mostly in villages around its edge. A few thousand individuals reside within an 800 square mile area comprised of dense forest with few public roads.

Geography

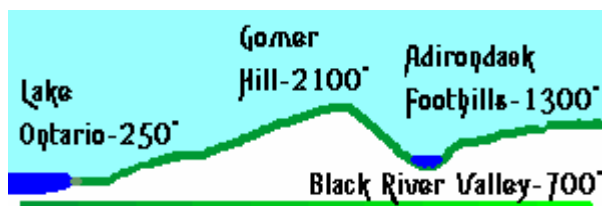
The Tug Hill region is one of the largest intact land blocks in New York State, comprising over 200,000 acres of working forestlands in the eastern Oswego, southern Jefferson, western Lewis, and northern Oneida counties. Tug Hill is larger than Delaware or Rhode Island, and comprises over 2,100 square miles of some of the most rural and remote lands in the state. The region lies between the eastern edge of Lake Ontario and the western edge of the Adirondacks. According to the Tug Hill Commission, there are 117,000 acres of wetlands, 4,000 miles of stream channels, three reservoirs, and a vast supply of groundwater. This supply of water is used for canoeing, fishing, power generation, and water supply.



Approximately 2/3 of the Tug Hill region is comprised of forestland, with the remainder largely comprised of agricultural land. Approximately 10% of the land is publicly owned, which is predominantly used for timber production, hunting and recreation. The remaining 90% is privately owned forest, farms, and homes, which support the region's economy.

Climate & Soil Composition

The Tug Hill Region experiences heavy precipitation throughout the year. During the winter months, the region experiences the highest levels of snowfall in New York State. Due to the region's elevation and proximity to Lake Ontario, annual snowfall totals typically exceed 200 inches. Precipitation during the summer months averages around 50 inches, making the area one of the snowiest and wettest regions east of the Rocky Mountains. The area's high precipitation supplies an abundance of wetlands, streams, and rivers.



Tug Hill is supported by sandstone on top; shale and limestone are exposed in the steep northeast face; shale underlies the valley. According to the Nature Conservancy and the Wildlife Conservation Society, the consistency of the area's soil is of poor quality. The

soils consist of a thin, dense surface layer of roots and organic matter with a homogenous structure. The bonds holding the soil together are usually very weak, which makes the soils prone to erosion. This same report explains that once the soil layer is cut, either with a hiking boot or ATV tire tread, then the solids can erode quite quickly. With respect to ATV use, the abundant rainfall the region experiences each year and the poor soil composition in certain areas, could drive up trail construction and maintenance costs.

Economy

The region boasts more than 17 primary timber related companies (sawmills) and 50 secondary timber related business, including furniture, paper and cabinetmakers. Some of the major forest industry employers and / or forestland managers in the region include, Harden Furniture, Cortland Wood Products, GMO Renewable Resources and the Nature Conservancy. Annually, the forest industry contributes more than \$80 million to the local economy.

Farming is also one of the most important economic drivers of the economy. The region is home to over 700 dairy farms and 350 non-dairy farming operations. Tug Hill is home to some of the largest dairy companies in the United States, including Great Lakes Cheese, H.P. Hood, Kraft and a host of other businesses. According to a 2003 Annual Report published by the Jefferson County Agricultural Development Corporation, the agricultural industry accounts for more than \$150 million to Jefferson County alone on an annual basis.

Increasingly, tourism is playing a vital role to the economy of the Tug Hill Region. Tug Hill's heavy snowfall helps to support winter recreational activities including snowmobiling, skiing, and snowshoeing at places like the Chateaugay, Tug Hill, and Winona State Forests. During the summer months, outdoor enthusiasts enjoy hunting, fishing, hiking, and increasingly ATV riding.

Public Participation

As part of this impact study, the Cooperative Tug Hill Council asked Camoin Associates to promote public and stakeholder participation through an ATV Issues Group forum. To achieve this goal, Camoin Associates incorporated the following opportunities for input and comment:

- Project Initiation Meeting (June 9th) with members of the ATV Issues Group to review the scope of services, identify additional stakeholders, coordinate resources and review the study survey instruments.
- Surveying (July-August)
 - Random Sample Trail Survey – measuring not only economic data, but also demographics and opinions of ATV riders in the Tug Hill Region. The following are locations and events where the surveying took place: Louie's Grill, Barnes Corners; The Flatrock Inn, Montague; Marty's Pub & Grub, Turin; Altmar Hotel, Altmar; Louie's Grill, Barnes Corners; Marty's Pub & Grub, Turin; Harrisville ATV Club Track, Harrisville. 294 intercepts were completed.
 - Non-Random Mail Survey – just under 1,000 surveys were mailed to existing ATV Club members to measure their attitudes, opinions and comments regarding ATV use. 450 surveys were completed and returned.
 - Business Survey – 130 surveys were mailed to ATV-related businesses to gauge their opinions and comments on ATV use. 41 surveys were completed and returned.
- Interviews with Stakeholders
 - More than twenty interviews were conducted with various stakeholders, including business owners, Department of Environmental Conservation (DEC) officials, law enforcement agencies, forest ranger personnel, professional trail builders / trail managers and environmental conservation groups (see bibliography for interview references).
- Focus Group Discussions
 - Invitations were sent out to a wide range of stakeholders to participate in focus group meetings that discussed ATV-related topics in depth.
- Email Contributions
 - Throughout the data collection phase, all stakeholders were invited to submit project feedback via email to Camoin Associates. Camoin Associates then responded and incorporated these comments (see appendices) into its findings and narrative.

- Presentation of Initial Findings
 - All initial findings were presented and discussed at two meetings on September 27th; one with the Tug Hill Commission and the second with the ATV Issues Group. Individuals were encouraged to participate in the discussion and provide feedback.
 - All stakeholders were given the opportunity to submit formal comments, via email, regarding the findings. Camoin Associates responded to the comments received (see appendices).
- Draft Report, Presentation and Comment Period
 - A draft report was made available to the public in December.
 - Camoin Associates presented the draft report in mid-December to the ATV Issues Group and the Council.
 - All stakeholders were encouraged to submit comments via email during the two-week period following the presentation.
 - Camoin Associates reviewed and responded to the comments received and incorporated them, where appropriate, into the final report. (see appendices).

Survey Results

Introduction

Camoin Associates subcontracted with The Center for Community Studies at the Jefferson Community College, in Watertown, New York for the development of appropriate survey instruments and for the collection and compilation of all survey data. The data was collected in July and August, 2005. This report is a summary of the descriptive statistical analysis and selected cross-tabulations of the data collected for the study of ATV ridership in the Tug Hill Region.

Methodology

The following collection approaches were utilized to obtain the data:

■ Mail Survey of ATV Club Members

The Center for Community Studies mailed 994 surveys to members of one or more ATV clubs in the Tug Hill Region. The survey included 35 questions, which after consideration of multiple part questions and “check all that apply” questions, resulted in approximately 80 variables recorded for each individual interviewed. A total of 449 valid completed ATV club member surveys were returned for a response rate of 45.2%.

■ Intercept Survey of Tug Hill Trail ATV Riders

The intercept survey included 35 questions, which after consideration of multiple part questions and “check all that apply” questions, resulted in approximately 80 variables recorded for each interviewed individual surveyed. The composition of the questions remained as identical as possible to the questions asked in the mail survey. The intercept surveys were administered by approaching ATV riders in the Tug Hill Region and encouraging them to participate, while informing them that it was a voluntary survey for which they could choose to omit any individual questions. Once voluntary informed consent to participate was secured, the rider was given the option to complete the survey individually and independently, or, if they preferred, the survey was administered as an interview, with a trained Center for Community Studies research assistant completing the interview.

Camoin Associates and The Center for Community Studies agreed to conduct the intercept surveys at locations and on dates that would ensure representation of all four counties in the defined Tug Hill Region. To maximize the response rates, dates selected were on weekends throughout the months of July and August of 2005. At some locations, the times and dates were selected to coincide with a scheduled ATV event to maximize the likelihood of large sample sizes and representative sampling. A total of 294 intercept surveys were completed.

Intercept sampling was completed at the following times and locations:

- July 9, 2005 Louie's Grill, Barnes Corners, New York
- July 9, 2005 The Flatrock Inn, Montague, New York
- July 9, 2005 Marty's Pub & Grub, Turin, New York
- July 16, 2005 Altmar Hotel, Altmar, New York
- July 30, 2005 Montague Inn, Lowville, New York
- July 30, 2005 Marty's Pub & Grub, Turin, New York
- August 13, 2005 Harrisville ATV Club Track, Harrisville, New York

■ Mail Survey of Business Owners

The CCS mailed surveys to 130 ATV-related businesses in Tug Hill. The survey included 15 questions, which after consideration of multiple part questions and "check all that apply" questions, resulted in approximately 40 variables recorded for each responding business. The completed surveys were returned to the Center by mail. A total of 41 valid completed business surveys were returned for a response rate of 31.5%.

Tabulation of Results

The presentation of survey results involves a descriptive analysis and summary of relevant findings. Depending upon the format of the questions (i.e. open-ended, categorical, continuous, or "choose all that apply") the presentation of the statistical results includes a combination of reporting sample sizes, means, standard deviations, medians, ranges, frequencies, and percentages. For selected ATV rider outcome variables in the mail and intercept ATV rider surveys, cross-tabulations (or sorts) were also analyzed. In total, more than 300 different cross-tabulations were run. Among these 300 cross-tabulations, only the significant relationships, associations, or differences are reported.

Camoin Associates selected those results most pertinent to this study and included them below. (The entire set of survey results and extensive analysis can be found in the appendices.)

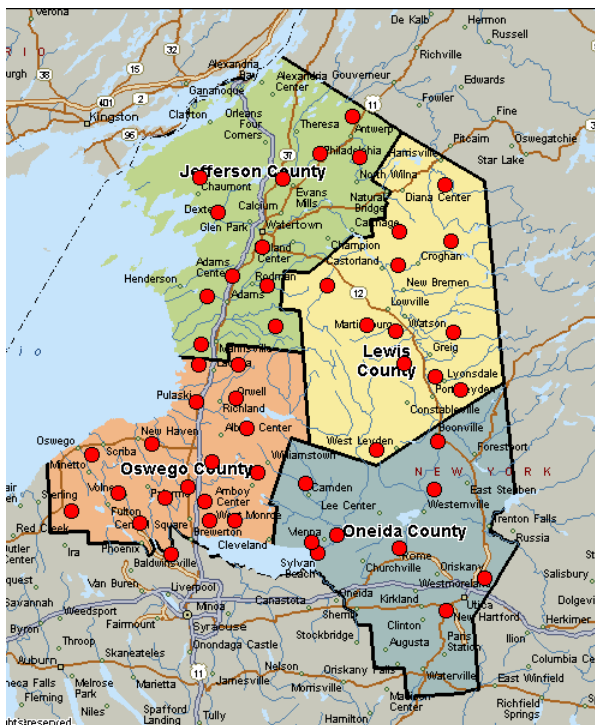
Analysis of Results

Because the trail intercept surveys were conducted in manner that would provide a near random sample (with certain limitations discussed in the impacts section of this report), Camoin Associates relied on them for purposes of reporting demographic and economic profiles and spending patterns of the typical ATV rider. Therefore, unless otherwise noted, the results reported below are derived from only the intercept surveys.

Demographics

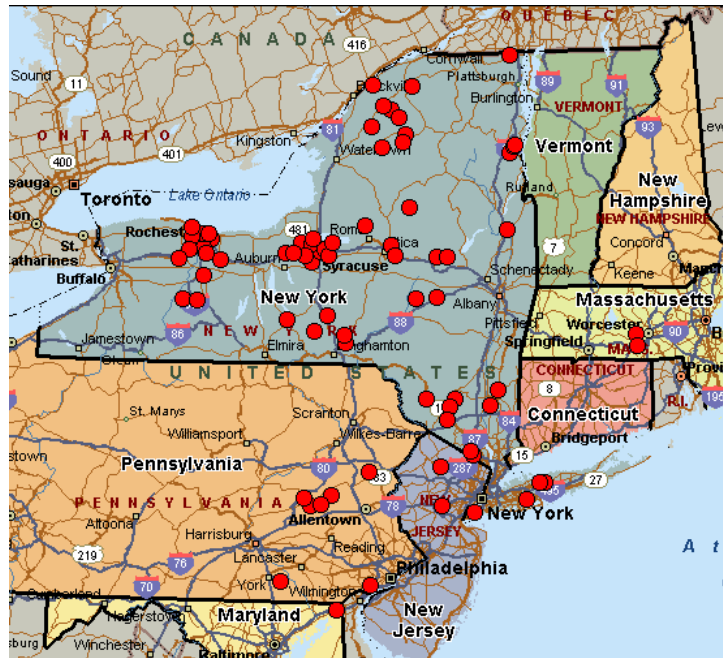
An analysis of the results indicates that over 75% of riders are male with a mean age of 42.7 years. A majority of intercept respondents were between the ages of 35 and 54. 43.1% of respondents have household incomes between \$40,000 and \$80,000, over 35% have household incomes less than \$40,000. Approximately 41.4% of respondents obtained a high school degree, with the next highest grouping having attended some college or completing a technical school (28.9%). Group education levels followed similar patterns, with over 48% having some high school or a high school diploma.

Income Levels	Number	%
Less than \$10,000	6	2.40%
\$10,000 - \$20,000	11	4.50%
\$21,000 - \$40,000	66	26.80%
\$41,000 - \$60,000	56	22.80%
\$61,000 - \$80,000	44	17.90%
\$81,000 - \$100,000	31	12.60%
Over \$100,000	18	7.30%
No Response	14	5.70%



Almost 90% of respondents were from New York State, with the next highest level of respondents (4.6%) coming from Pennsylvania. In total, 254 riders were from New York State, while 13 came from Pennsylvania, and 8 coming from Massachusetts. Of the respondents from New York State, 52.6% were from the Tug Hill Region. Oswego County residents were the most prevalent, totaling just over 20% of riders. Lewis County residents represented the next highest grouping, with 15.4% of New York State riders. Jefferson County residents totaled 10.7% of riders; St. Lawrence represents 7.9% of riders and Oneida riders totaled 6.1% of the total. The geographic distribution of survey respondents for the Tug Hill region is shown in the accompanying map.

The map to the right depicts the distribution of respondents from outside the Tug Hill region. In addition to the responses shown, there were also individuals surveyed from Florida, Louisiana, and South Carolina.



ATV Ownership and Opinions

The vast majority of survey respondents (95.4%) own their own ATV's and almost half own two or more ATVs. As illustrated in the accompanying chart, most riders used their ATV's for a number of activities, including hunting, fishing, trail riding, and riding at home or on the farm.

Types of ATV Use		
Intercept Survey	Number	%
At Home	121	46.5
Hunting	128	49.2
Recreational	239	91.9
Fishing	56	21.4
Racing	34	13.1

ATV Enjoyment Mail Survey	Very Important
Trail Safety	80.3%
Riding with Family	79.5%
Riding with Friends	78.3%
Relaxation	73.2%
Scenery	70.9%
Exploring New Areas	62.6%
Variety of Terrain	62.1%

According to the mail surveys, the most important factors relating to the enjoyment of ATVing were trail safety and riding with family and friends, although a number of other categories were also important to riders.

Respondents were asked in the mail and intercept surveys what improvements could be made to the ATV riding experience in the Tug Hill Region. The most common response in both surveys was the need to create more trails.

According to the mail survey, 9 out of 10 respondents cited the need to create additional trails. As illustrated in the accompanying chart, $\frac{3}{4}$ of mail survey respondents and $\frac{2}{3}$

of intercept respondents expressed an interest in opening up more roads for ATV use. Somewhat surprisingly, a majority of mail survey respondents advocate developing some sort of trail management system, while less than 40% of intercept survey respondents cited this as a way to improve the trail riding experience in Tug Hill. Furthermore, when asked what the single most important factor would be to make an individual to stay longer in Tug Hill, most respondents (43.6%) cited establishing additional trails or extending trail mileage. Approximately 18% cited opening up more roads to ATV use.

Possible Improvements	Mail Survey Totals - 444	Intercept Totals - 273
Creating More Trails	90.1%	70.3%
Opening More Roads	76.1%	66.3%
Developing a Trail Mgt. System	65.3%	39.9%
Creating Additional Signage	65.5%	39.6%
Improving Access to Trailheads	59.9%	36.3%
Protecting Private Property Rights	58.1%	35.5%

When asked how much (in addition to the annual ATV registration fee of \$25 dollars) a rider would be willing to pay each year to fund a trail management system, a largest group of

Trail Mgmt. System Contributions	Mail - 431 Responses		Intercept - 250 Responses	
	Number	%	Number	%
\$0	64	14.9%	34	13.6%
\$10	93	21.6%	55	22%
\$25	163	37.8%	103	41.2%
\$50	83	19.3%	44	17.6%
\$100	23	5.3%	11	4.4%
\$150+	5	1.2%	3	1.2%

respondents cited \$25. For both mail and intercept survey responses, the second most common response was \$10. A fair number of individuals (almost 20% of mail survey respondents and over 17% of intercept survey respondents) would be willing to pay \$50.

According to the cross-tabulated mail survey results, there were two significant factors that appear to be associated with a willingness to contribute to a trail management system fee: education (the higher the education level then the more likely to be willing to

contribute – 92% of the college graduates are willing to pay) and geography (those who live outside of Tug Hill and outside of New York State are more likely to be willing to pay for a trail management system than those who live within those respective regions).

For the intercept survey, there was one factor that appears to be associated with willingness to contribute to a trail management system fee: age. Among those under 35 years old, only 76% are willing to contribute, among those aged 35-54, 87% are willing, while 95% of those aged 55 and older are willing to contribute.

Intercept survey respondents were asked about their overall experience riding the trails in the Tug Hill Region. Over 70% of respondents indicated that they had an excellent or very good experience riding the trails. Almost 25% of respondents rated their experience as “good.” Overall, a vast number of riders are enjoying their riding and their responses indicate that they are enjoying their experience and having fun out on the trails¹.

Overall Experience Intercept - 260 Responses		
Rating	Number	%
Excellent	96	36.9%
Very Good	88	33.9%
Good	63	24.2%
Fair	13	5%

A very similar question was posed to both mail and intercept survey respondents. This question specifically asked individuals to rate the trails in the Tug Hill Region. Roughly 16% of mail survey respondents rated the trails excellent, compared with 34.8% of intercept survey respondents. In fact, according to the data, intercept survey respondents were significantly more likely to view the Tug Hill trails more favorably than compared to mail survey respondents. The following chart provides a breakdown of how individuals rated the trails.

Trail Rating Responses	Mail - 439 Responses		Intercept - 279 Responses	
	#	%	#	%
Excellent	71	16.2%	97	34.8%
Good (Needs some improvement)	257	58.5%	139	49.8%
Fair (Needs significant improvement)	77	17.5%	34	12.2%
Poor (Needs major improvement)	34	7.7%	9	3.2%

When the mail survey responses were cross-tabulated for the question above, there were two significant factors that appear to be associated with the satisfaction levels: education and geography. Individuals with higher education levels were more likely to rate the trails as very good to excellent. Additionally, those who live outside of Tug Hill and New York State are more likely to rate their experience as very good or excellent. Conversely, Tug Hill residents are less likely to rate the trails very good or excellent.

An analysis of the cross-tabulations of the intercept survey indicates there were four significant factors that appear to be associated with Tug Hill satisfaction levels. These factors are listed below.

¹ As noted previously, most of the trails in the Tug Hill region are low-volume roads.

Education Level – The higher the education level, the more likely they are to have a very good or excellent experience.

Geography – 83% of those who live outside of New York State are more likely to rate the experience as very good or excellent compared to those who live within New York State.

Age – The older groups have higher satisfaction rates. Approximately 63% of those aged less than 35 years old, 78% of those aged 35-54 years old, and 67% of those aged 55 or older indicated a satisfaction of very good to excellent.

Income – Among those with household income levels below \$40,000 only 40% rated the experience as very good or excellent. However, 76% of those earning \$40,000-\$80,000 rated their experience as good to excellent, and 72%, of those who earn over \$80,000 rated their experience good to excellent.

Additional Activities Responses	Mail - 409 Responses		Intercept - 277 Responses	
	Number	%	Number	%
Dining	291	71.2%	165	59.6%
Area Attractions	180	44.0%	50	18.1%
Festival/Event	157	38.4%	36	13.0%
Shopping	148	36.2%	48	17.3%
Visit Family/Friends	108	26.4%	51	18.4%
ATV Races	66	16.1%	70	25.3%
Museums/Hist. Sites	44	10.8%	3	1.1%
Water Sports	43	10.5%	34	12.3%
Auto Races	32	7.8%	31	11.2%
Other Activities	27	6.6%	32	11.6%
Casino	19	4.7%	9	3.3%

Both mail and intercept survey respondents were asked what other activities they participate in while in Tug Hill on an ATV trip. The most common event for both respondents included dining out at local establishments. For mail survey respondents, 44% indicated that they visit area attractions. A large number of individuals also attend festivals or special

events, go shopping, and visit family and friends. The chart displayed above provides a breakdown of the additional activities responses for both the mail and intercept respondents.

Cross-tabulations of the mail survey data indicates four significant factors associated with the other activities that an ATV rider participates in while in Tug Hill. These factors include:

Education Level – The higher the education levels the more likely to shop, dine out, and/or visit local attractions.

Geography – Those who are not from the Tug Hill Region (also those not from New York State) are slightly more likely to participate in every one of the other ten types of attractions.

Age – ATV riders who are 55 years old or older are more likely to go shopping, while individuals under 35 are most likely to visit other local attractions.

Income – The higher the household income level, the more likely to dine out.

For the intercept survey, there were three significant factors associated with the other activities that an ATV rider participates in while in Tug Hill:

Age – ATV riders who are 35 years old or older are more likely to go shopping, visit family, dine out and attend auto races, while those under age 35 are more likely to attend ATV races.

Income – The higher the household income level, the more likely to dine out, visit friends and family, and attend local attractions.

Gender – Females are more likely than males to visit friends and family, go shopping, and dine out. Males are much more likely to attend ATV races.

Mail survey respondents were asked whether they take trips outside the Tug Hill region. Approximately 59% of individuals responded in the affirmative. Based on the data, the mean number of days that ATV riders spent on overnight trips outside of Tug Hill was 2.62 and the mean dollar amount spent on the trips was \$314.

Mail - 257 Responses		
ATV Destinations	Number	%
Pennsylvania	48	18.7%
Canada	42	16.3%
Adirondacks	12	4.7%
West Virginia	12	4.7%
Brasher State Forest	11	4.3%

Mail survey respondents were then asked what areas throughout North America they visit the most. As illustrated in the accompanying chart, Pennsylvania was the most visited area outside of the Tug Hill region. A fair number of individuals traveled to Canada for trips. Only a few individuals made the short trek to Brasher State Forest, in northern New York State. A

total of 12 individuals, or 4.7% of respondents, made the trip down to the Hatfield-McCoy trail system in West Virginia. Of these respondents, 38.2% indicated that they traveled to other areas to experience a better trail system and almost 1 in 5 wanted a change of scenery.

Intercept survey respondents were asked whether they were on an overnight trip to the Tug Hill region. Approximately 47.5% answered in the affirmative. Of this, 30% were staying in a hotel/motel, 24.8% were staying at a second home in Tug Hill, 16.3% were camping, and 14% were staying in an RV. The average trip length was 2.8 days. As evidenced in the accompanying chart, visitors were almost equally distributed across a range of distances traveled. Somewhat surprisingly, almost 1/3 of respondents traveled over 100 miles to visit the Tug Hill trails, indicating that longer distances are not a significant deterrent in attracting visitors. Furthermore, approximately 59% of respondents

Travel Distances Intercept - 269 responses		
In Miles	Number	%
0 - 10	46	17.1%
11 - 25	49	18.2%
26 - 50	49	18.2%
51 - 100	40	14.9%
101 - 200	49	18.2%
201+	36	13.4%

who traveled over 100 miles indicated that they would be willing to contribute some of their time for volunteer work to assist with trail maintenance or cleanup.

Spending Profiles

Survey respondents were asked: “How much (in \$) do you estimate you and your immediate travel group spend on a typical ATV trip in the Tug Hill region.” Responses are shown below.

Types of Expenses Per Trip:	Min	Max	Mean
Lodging	0	\$1200	\$60
Food and drink at Bars/Restaurants	0	\$1250	\$105
Area entertainment, admissions	0	\$200	\$10
Shopping (souvenirs, clothing, etc)	0	\$250	\$12
Gas (purchased in Tug Hill Region)	0	\$625	\$44
Repairs	0	\$800	\$14
Convenience stores (not gas)	0	\$200	\$14
Transportation to the area	0	\$625	\$21
Gaming/casinos	0	\$100	\$1
ATV equipment and accessories	0	\$7000	\$73
Other	0	\$300	\$4

With mean spending per group of approximately \$360, and a mean group size of approximately 6 persons, the resulting estimated spending per person per ATV trip to Tug Hill is \$60. For the economic and fiscal impact sections of this report, that number is further broken down into per person/per day spending for non-resident spending.

Importance of Clubs, Friends and Family

A total of 44% non-New York residents indicated that their primary source of information about the Tug Hill trails was through ATV clubs. Approximately 60% of non-Tug Hill residents indicated that their primary source of information about the trails in Tug Hill were friends and family. One-third of Tug Hill residents indicated that their primary source of information about the trails was obtained through friends and family. Among those individuals who do not live in New York State this figure increased to 61%.

Frequency of Ridership

More than 26% of respondents make one or two trips to the Tug Hill region each year to ride; while 25.7% make 3 or four trips. Almost 25% of riders make 5 to 10 trips per year. Approximately 80% of respondents ride their ATV's during the spring, summer and winter months; however over half (57.4%) ride snowmobiles during the winter. The mean number of people in travel groups was six individuals, and the average number of visits made to the Tug Hill region annually is 8.2 trips.

Business Survey Results

Surveys were also sent to Tug Hill businesses to gauge the general impacts that ATV's have on their companies. Overall, annual sales to individuals involved in ATV activities have been limited to moderate. Approximately 48% of business owners cite that between 1 and 20 percent of total revenue is generated from individuals in ATV related activities. Twelve owners, or 32.4% of business respondents calculate that between 21 and 40 percent of annual sales are ATV-related.

However, as illustrated in the accompanying table, a majority of business owners estimate that ATV-related sales have been increasing over the past two years. Additionally, 42.5% of business owners stated that they would be expanding in the next few years, while 37.5% indicated they would be hiring additional employees. Whether or not this increase can be equated to ATV-related activities is unknown; however, it does indicate that those Tug Hill businesses that were interviewed are generally experiencing strong sales. Furthermore, although most businesses experienced strongest sales during the summer months, the data suggests that sales are not cyclical. There appears to be some decrease in sales during the spring, however, many indicated that their peak seasons ran through the summer, fall and winter months.

Sales to ATV Riders Business Respondents		
Trends	Number	%
Growing	22	59.5%
Declining	8	21.6%
Unchanged	7	18.9%
Total	37	100.0%

Business owners were then asked to give their impressions of the Tug Hill ATV trail system. A significant amount of individuals cited the trails as being fair, needing significant improvement. As illustrated in the accompanying chart, only one business owner rated the trails as excellent. What is surprising about these findings is that business owners overwhelmingly rated Tug Hill trails worse than intercept respondents. This would further bolster the position that locals (both business owners and ATV riders) view the Tug Hill trails less favorably than outsiders. However, 100% of business owners support the expansion of Tug Hill trails.

Tug Hill Trails Business Respondents		
Trail Rating	Number	%
Excellent	1	2.6%
Good	11	28.9%
Fair	20	52.6%
Poor	6	15.8%

Furthermore, almost 90% of businesses would contribute funding towards a trail management system and approximately 57% would volunteer their time to support a system. Respondents were specifically asked how much money they would spend to help fund a trail management system. As illustrated in the accompanying chart, 80% of business owners would support paying between \$25 and \$150+ dollars for a trail system. What is striking about the data is that a full twenty percent of business owners support paying over \$150 for a system. Additionally, over 70% think that taxpayer money should be allocated to a trail system, and an even greater number think that user fees should be charged for a system.

Business Support Business Respondents		
Amount (\$)	Number	%
0	4	11.4%
10	3	8.6%
25	6	17.1%
50	8	22.9%
100	7	20.0%
150+	7	20.0%
Total	35	100.0%

Economic and Fiscal Impact Analysis

Overview

For purposes of this study, CA defined the study area as the four counties encompassing the Tug Hill region: Jefferson, Lewis, Oneida, and Oswego County. CA evaluated ATV use in those counties from three perspectives – Economic Impacts, Fiscal Impacts and Other Impacts as defined below.

CA also extrapolated the results of the economic and fiscal impacts section in a hypothetical situation where ATV use increased significantly in the Tug Hill Region. The hypothetical scenario was based on the proposition that (1) 25% more new visitors could be induced to come to the Tug Hill Region to pursue ATV riding in a given year and that (2) Tug Hill residents that currently take ATV related trips outside of the region could be induced to instead spend 25% of those trips in the region. The example was meant to examine what might be the new economic and fiscal impacts of such a visitation scenario.

Definitions

Economic Impact Study – The purpose of an economic impact study is to identify the flow of **new** dollars into the Tug Hill Region as a result of ATV use and to understand how those new dollars circulate in the Tug Hill economy. “New dollars” are defined as those not already existing in the economy (eg. dollars spent by individuals who are not residents of Tug Hill). Once those new dollars enter the economy through visitor spending, they circulate multiple times before exiting the economy, as local businesses make purchases themselves and pay wages to their employees. An Economic Impact Study demonstrates the total amount of sales, wages and jobs supported by new ATV-related dollars.

Fiscal Impact Study – Unlike the economic impacts described above, a fiscal impact analysis focuses on the revenues and expenditures of governments with respect to ATV use. It attempts to show how money flows into and out of government coffers. Inflows include sales, bed and property tax revenues. Outflows include expenditures for enforcement, planning, mitigation, maintenance and other costs incurred by the government. The purpose of the study is to understand how an individual government entity (e.g. County or Counties of the Tug Hill Region) is impacted by ATV use, whether the impact is positive or negative, and the extent of the impact.

Other Impacts – Both the Economic and Fiscal Impact Analyses described above are highly quantitative and financial in nature. However, there are types of impacts associated with ATV use that are either non-quantitative (eg. impacts on quality of life) or presently impossible to accurately quantify due to lack of data (eg. dollar amount of damage to private property). This section of the analysis attempts to quantify to the extent possible these impacts and to discuss them in narrative format.

Methodology

The impact analysis is a multi-phase process consisting of the following steps:

- A determination of the number of ATV users within the Tug Hill region. This was derived from information obtained from New York State Off-Road Vehicle Association (NYSORVA) staff, from information published by ATV manufacturers and NYS ATV registration data.
- Estimating the number of ATV trips in the Tug Hill Region per year per ATV user, taken from information collected during the random sample ATV user surveys.
- Collection of information regarding average spending by ATV users, by category of purchases, limited to “net new” spending by visitors from outside the Tug Hill region.
- Calculating, from the above derived information, total visitor spending in the Tug Hill Region associated with ATV usage.
- The IMPLAN¹ analysis used these spending figures (the “Direct” effects of ATV use) to calculate the indirect and induced effects of ATV use on the regional economy. “Indirect Effects” are those effects caused by the purchases made by ATV users in the local economy, raising demand for local services and goods. “Induced Effects” are those effects caused by employment associated with the use of ATVs.

Phase two of the analysis involved calculating the effect of ATV use on the fiscal resources of the Tug Hill region. This information is presented in terms of costs and benefits.

- In terms of benefits, the ATV-related spending highlighted in the economic impact study (see above) was used to estimate new sales tax revenues received by the Tug Hill Region’s County governments.
- CA also developed estimates for occupancy tax receipts for the four counties in the Tug Hill region based on aggregate spending on lodging by ATV users.
- The results of the intercept survey were analyzed to develop estimates of new property tax revenue for those individuals who own 2nd homes or camps in the Tug Hill Region because of their ATV use. Adjusting for multiple factors (including the fact that secondary residences may be owned for reasons beyond just ATV use), CA estimated the property tax revenues generated for the four counties based on averaged assessed property values and average County millage rates.

¹ IMPLAN is an economic impact assessment system that uses input-output accounting to estimate the total changes to employment and sales that are attributable to a given project, event or business. Input-output accounting describes commodity flows from producers to intermediate and final consumers. The total of these various effects produces a set of multipliers that describe the changes of an output for each regional industry caused by a one-dollar change in final demand. The multipliers used for this analysis are specific to the region defined to the Counties of Jefferson, Lewis, Oneida, and Oswego.

The cost of providing ATV-specific government services was also estimated. These services include: costs associated with regulation of ATV use, enforcement costs for numerous government entities, property damage remediation (where applicable), and development and maintenance of ATV trails and access points. Where specific cost figures are not available CA presents any anecdotal information that is available. CA also detailed other significant cost items, where possible, including environmental costs resulting from damage due to improper and/or illegal ATV operation, costs to agencies managing ATV trail networks, and involuntary costs imposed upon Villages and Towns (including road maintenance costs).

In the final phase of the analysis, CA attempted to collect as much information as possible regarding non-quantitative costs and benefits of ATV use as well as information on those costs that are difficult or impossible to quantify due to lack of data. This data is presented in narrative and anecdotal format and forms an important body of information for public policy decision makers to consider in relation to the findings of the economic and fiscal impact sections of the report.

Limitations

Readers of the study should be aware of the limitations associated with the analysis provided in this report. They include the following:

Sampling Bias

The locations for the trail intercept survey were selected to obtain a representative sample of visitors and every attempt was made to select respondents at random. However, for ease of collection and for the purposes of maximizing the sample size, the surveying was completed on Saturdays during the summer period. Due to this, the survey results could be biased if there are differences in those ATV enthusiasts that pursue the sport predominately during other times of the year.

Some of the surveying was also completed in the context of ATV-focused events. As such, the survey results may be biased towards events participants as opposed to those who visit the region to pursue solo or small group ATV riding.

Limitations on Quantifiable Inputs

Additionally, there are a number of important impacts that presently cannot be quantified. The most important factors that could not be quantified include environmental impacts and mitigation, damage to private property and the social costs associated with ATV use.

The scope of this study did not include an environmental impact assessment and CA is not qualified or licensed for such services. However, where possible, CA has collected the best available information as to the costs of mitigating illegal ATV trails (including revegetating those trails), the costs of wetlands damage and mitigation and information about the ecological ramification of ATV use. Unfortunately, very little information has been collected to date for any region of the United States that clearly or definitively quantifies either the magnitude of the damage being done by ATV use or the costs of remediation of that damage. Anecdotal information abounds on the subject and is reported from reputed and objective sources.

CA also explored the possibility of quantifying the economic impact of ecological damage, but found that the current modeling of such impacts necessitates a study area significantly larger than the Tug Hill Region. The economic impact of this damage is spread out over very large ecosystems and not at a county or sub-county area. In economic parlance, the implication is that regions outside our study area (Tug Hill) are experiencing the effects of a negative externality associated with ATV use.

Like the environmental impacts described above, damage to private property is a problem often reported anecdotally. However, few data exist that describe the number of incidences (CA understands that the vast majority of cases of damage go completely unrecorded), the extent of damage, or the likely costs of fixing the damage.

Additionally, this study does not quantify quality of life impacts, but does discuss them as well as innovative practices of communities across the United States that have dealt effectively in certain circumstances with those impacts.

Limited Scope of Study

Lastly, and perhaps most importantly, this report is **not** intended to be a full public policy analysis. Rather, the information presented is intended to facilitate and inform the ongoing policy discussion and to provide an objective and thorough look into certain aspects of ATV use in the Tug Hill Region.

CA encourages the Cooperative Tug Hill Council and the region's governments to use the findings of this report as one piece of a larger puzzle that incorporates the types of information, listed above, that do not fall under the purview of this analysis.

Estimating the ATV Population

In order to determine the economic and fiscal impacts of ATV use on Tug Hill, CA first had to estimate the number of individuals who pursue ATVing on Tug Hill. These individuals spend in the local economy, supporting numerous businesses, and are the primary focus of the economic impact study.

ATV sales estimates were available from a number of industry sources. These estimates included total US sales, and sales for New York State, from 1995 to 2005². This data was discussed and compared to estimates developed by NYSORVA³.

The total population of ATVs in New York State was based on this historical data. As a result of interviews with NYSORVA, CA excluded vehicles sold before 1996 from the analysis to account for those vehicles which are no longer serviceable. Based on this assumption and the industry sales figures, the total number of ATVs currently operating in New York State is estimated at 320,000.

ATV Sales Data: 1996 - 2005	
Total US Sales	6,440,000
Estimated New York Sales	320,000

ATVs Owned by Tug Hill Residents	
Estimated New York ATVs	320,000
% of ATVs Registered by Tug Hill Residents	14.5%
Estimated Tug Hill ATVs	46,400

CA refined this figure to include only those individuals residing within the Tug Hill Region. For 2001 – 2003, 14.5% of all ATVs in New York were registered by Tug Hill residents⁴.

Applying this percentage to the total number of ATVs in the state reveals there are approximately 46,400 ATVs in the study area.

Through the *intercept survey*, CA determined that 36.6% of all individuals operating ATVs in the Tug Hill region are non-residents. Given that the resident population of ATV users is 46,400, CA determined approximately 26,800 non-residents visit the region to pursue ATV riding and activities.

According the intercept survey responses, these non-resident riders take 7.4 trips on average to the Tug Hill region per year to pursue ATV riding, with an average trip length of 2.41 days. Therefore, non-residents spend approximately 478,000 days on Tug Hill each year.

Tug Hill Non-Residents - Total ATV Use	
Number of ATV Related Visitors	26,800
Average Trips Per Year	7.39
Average Length of Trip	2.41
Total Trips Per Year - ATV Related Visitors	478,068

² Source: Motorcycle Industry Council; Dealer News.

³ Source: Interview with Alex Ernst.

⁴ Source: New York State Department of Motor Vehicles.

Current Economic Impacts

The intercept survey asked individuals to identify their total daily spending, by category, for their party during the course of their trip. The reported spending was then divided by the respondent's party size and reported length of stay (number of days on that particular trip) to determine spending per person per day. A summary of the average daily expenditures per person are shown below with the aggregate expenditures for all non-resident ATV spending shown in the right column. The total expenditures column represents the direct economic impacts of ATV use on sales in the Tug Hill Region.

Direct Effects of ATV Use on the Local Economy		
Expense Category	Average Expenditures Per Person Per Day	Total Expenditures
Lodging	\$6.71	\$3,205,539
Food & Drink at Bars/Restaurants	\$16.17	\$7,729,979
Area Entertainment, Admissions	\$1.41	\$675,536
Shopping (Souvenirs, Clothes, etc.)	\$1.99	\$953,436
Gas (Purchased in Tug Hill Region)	\$6.22	\$2,971,622
Repairs	\$1.22	\$583,558
Convenience Stores (Not Gas)	\$1.88	\$900,791
Transportation to the Area	\$4.09	\$1,954,492
ATV Equipment & Accessories	\$7.88	\$3,766,087
Other	\$0.68	\$326,077
Total Expenditures	\$48.25	\$23,067,119

The total direct economic impact associated with ATV use is \$23.1 million. Mathematically, this figure is the average expenditure per person per day, multiplied by the estimated number of total user days.

Through the use of IMPLAN, the direct effects described above were used to calculate the indirect, induced, and total economic impacts of ATV use, as defined below in terms of employment, wages and sales (also referred to as "output").

Direct, Indirect, & Induced Impact of ATV Use on the Tug Hill Economy				
Description	Direct	Indirect	Induced	Total
Employment	564	50	87	701
Wages	\$7,885,011	\$1,340,186	\$2,140,798	\$11,365,995
Output	\$23,067,118	\$4,940,743	\$7,243,354	\$35,251,215

The direct impacts of ATV use on the Tug Hill economy includes \$23.1 million in sales for local businesses, supporting employment of 564 individuals who earn \$7.9 million in wages. The indirect and induced impacts increase ATV related sales by \$12.2 million, employment by 137 jobs, and wages by \$3.5 million. The indirect impacts include those purchases by Tug Hill businesses from producers of goods and services in the Tug Hill region. These businesses also pay wages to their employees, who spend a portion of their earnings in the local economy, which are

the “induced” impacts. The total economic impact, for each category shown above, is the sum of the direct, indirect, and induced impacts.

Total Impact of ATV Use - Estimated FTEs	
Wages - ATV Related Positions	\$11,365,995
Average Tug Hill Wage	\$30,800
Estimated FTEs	369

However, the employment figures listed in the table above are not full-time equivalent positions (i.e. they are full-time, part-time and seasonal positions). According to the Quarterly Census of Employment and Wages, the average worker on

Tug Hill earns approximately \$30,800 on an annual basis. Therefore, CA estimates the \$11.4 million in wages supported by ATV use represents the equivalent of 369 full-time equivalent positions.

The table at right illustrates the industries that are supported by ATV use on Tug Hill. For example, the IMPLAN model estimates that the total economic impact of ATV use on food services and drinking places is \$8.2 million.

Industries Supported by ATV Use	
Industry	Sales
Food services and drinking places	\$8,225,276
Gasoline stations	\$5,895,949
Sporting goods	\$3,798,591
Hotels and motels	\$3,264,189
Miscellaneous store retailers	\$1,348,065
Owner-occupied dwellings	\$1,043,782
Power generation and supply	\$734,398
Total	\$35,251,206

Similarly, there are a number of employment opportunities that are supported by ATV usage. The table to the right details those positions. The model estimates the greatest impact on employment occurs at food services and drinking places. ATV use supports 230 jobs (full time, part time, seasonal) at these establishments, or the equivalent of 90 FTEs. Other important sectors where ATV use supports high levels of employment includes gasoline stations, sporting goods stores, and hotels and motels.

Employment Supported by ATV Use		
Industry	Employment	Estimated FTEs
Food services and drinking places	230	89
Gasoline stations	134	69
Sporting goods	102	41
Hotels and motels	58	38
Miscellaneous store retailers	38	15
Other amusement	13	7
Automotive repair and maintenance	12	7
Total	702	369

Resident ATV Spending

The following table details resident ATV related spending and is provided only for comparative purposes. These figures are **not included** in the economic impact analysis because such studies do not include “captured” dollars that already exist in the study area’s economy.

The conceptual explanation for this distinction is that captured dollars neither add to nor subtract from the local economy. In other words, the economy of the Tug Hill Region does not experience a change because its residents have chosen to spend their money on ATV-related goods and services and not on other types of goods and services. The model assumes that if residents did not spend money on ATV related goods and services, they would spend it on other types purchases. Thus resident ATVing does not create additional sales – this spending simply represents economic activity rather than a genuine economic impact.

Resident ATV Spending		
Expense Category	Average Expenditures Per Person Per Day - Residents	Total Spending - Residents
Lodging	\$2.58	\$3,047,115
Food & Drink at Bars/Restaurants	\$7.83	\$9,252,461
Area Entertainment, Admissions	\$0.94	\$1,116,139
Shopping (Souvenirs, Clothes, etc.)	\$0.66	\$780,490
Gas (Purchased in Tug Hill Region)	\$3.63	\$4,289,595
Repairs	\$1.83	\$2,167,566
Convenience Stores (Not Gas)	\$1.14	\$1,345,513
Transportation to the Area	\$0.70	\$826,443
Gambling	\$0.14	\$164,089
ATV Equipment & Accessories	\$12.24	\$14,460,192
Other	\$0.23	\$267,310
Total Expenditures Per Day	\$31.92	\$37,716,913

Current Fiscal Impacts

The following section details the current impact of ATV use on the fiscal resources of the four counties encompassing the Tug Hill Region and is based, in part, on the results of the economic impact study from the previous section.

Sales Taxes

The current economic impact of ATV use in the Tug Hill region totals \$35.3 million. Based on information from the New York State Department of Taxation and Finance, CA determined that \$21.3 million of this amount is subject to the sales tax. Assuming the economic impacts are evenly distributed throughout the four Tug Hill Counties, sales tax receipts associated with this bundle of goods would total roughly \$907,000. Note that these sales tax receipts are based strictly on County sales tax rates, and are not adjusted for any local revenue sharing agreements.

County	Sales Tax Rate	Sales Taxes
Jefferson	3.75%	\$200,110
Lewis	3.75%	\$200,110
Oneida	5.50%	\$293,494
Oswego	4.00%	\$213,451
Total		\$907,165

Occupancy Taxes

Similar to the sales tax, each County in the Tug Hill Region levies an occupancy tax, commonly referred to as the Bed Tax. The IMPLAN analysis identified impacts on lodging totaling \$3.3 million. This spending generates approximately \$106,000 in occupancy tax receipts for the Tug Hill region.

County	Occupancy Tax Rate	Occupancy Taxes
Jefferson	3.00%	\$24,481
Lewis	5.00%	\$40,802
Oneida	2.00%	\$16,321
Oswego	3.00%	\$24,481
Total		\$106,086

Property Taxes

The survey results showed that 19% of all nonresidents who pursue ATV riding on Tug Hill own 2nd homes or camps. In total, these individuals own an estimated 5,000 2nd homes or camps in the Tug Hill Region. Generally, 2nd home ownership has a positive fiscal impact for a region because these properties typically pay property taxes without placing heavy demands on community services.

For purposes of the fiscal impact study, only the portion of taxes paid on these properties directly attributable to ATV use should be counted as a fiscal impact. CA calculated this in two ways. First, CA filtered out survey results for individuals whose only activity in the Tug Hill Region involved ATV use. 100% of their estimated property tax payments were included. For those property owners that reported multiple activities in the Tug Hill Region, 25% of their property tax payments were assumed to be attributable to ATV use.⁵

⁵ CA used the 25% benchmark based on the results of the surveys that showed that many ATV users participate in a variety of outdoor activities. Furthermore, many ATV riders reported that their motivations for coming to the Tug Hill area involved visiting with family and friends. Therefore, only a relatively small portion of their property taxes can be attributed to just ATV riding.

A summary of the primary data is shown in the table below.

Impact of ATV Use on 2nd Home Ownership	
2nd Homeowners - Exclusive ATVers	425
2nd Homeowners - NonExclusive	4,600
Average Assessed Value of 2nd Homes	\$25,000
Average County Millage Rate (Per Thousand)	\$12.00
Associated Property Tax Levies	
2nd Homeowners - Exclusive ATVers	\$127,500
2nd Homeowners - NonExclusive	\$345,000
Total Property Tax Levy Related to ATV Use	\$472,500

Of the total pool of 2nd home/camp owners (approximately 5,025), the survey results showed 8.3% own their homes exclusively due to ATV use (approximately 425). Additionally, roughly 4,600 non-residents own a 2nd home on Tug Hill, but these individuals do not own their homes exclusively to pursue ATV riding.

Based on interviews with several Town assessors, the average assessed value of a 2nd home/camp is approximately \$25,000 and the County portion of the property tax on Tug Hill is roughly \$12 per \$1000 of assessed value.

Therefore, the property tax revenues provided by individuals who own 2nd homes strictly to pursue ATV riding is approximately \$127,500, and individuals who do not exclusively engage in ATVer contribute another \$345,000, for a total of \$472,500.

Current Enforcement Costs

There is currently a lack of funding available for ATV enforcement, as noted by DEC staff and local law enforcement officials. Currently, DEC staff estimate their costs for ATV enforcement total approximately \$100,000 for the Tug Hill region. Note that DEC enforcement officers are not solely responsible for ATV enforcement, but address ATV related issues when necessary in the course of their typical duties. To properly address enforcement issues, DEC staff estimate funding needs of \$400,000 for the Tug Hill region.

Similarly, local law enforcement officials did not report having sufficient funding to properly respond to reported ATV violations, and reported approximate costs of \$100,000 for the Tug Hill region. However, the estimated costs to properly police ATV use are considerably higher. According to the Lewis County Sheriff's Department, the four County Sheriff's Departments would need approximately \$1.6 million in funding to police ATV use in the region.

Highway Costs

Local highway superintendents did not report any significant costs associated with damage to municipal property from ATV usage. Of five superintendents interviewed, only two reported instances of property damage. In each instance, the estimated total cost was less than \$1,000. These costs are incurred at the local level, and not by the Counties.

Summary of Quantifiable Fiscal Impacts

As detailed previously, current local tax revenues generated by ATV tourism total approximately \$1.5 million. Sales taxes receipts, generated by spending on goods and services at Tug Hill businesses, account for approximately 2/3 of this total.

Summary of Quantifiable Fiscal Impacts	
Sales Taxes	\$907,165
Occupancy Taxes	\$106,086
Property Taxes	\$472,500
Net Impact	\$1,485,751

According to interviews with County Sheriff's departments and the focus group discussions, current enforcement levels are not sufficient to adequately deter illegal ATV use and prosecute individuals who violate the law. While current spending totals \$200,000 for the Tug Hill region (the sum of DEC and police enforcement costs), proper enforcement would cost approximately \$400,000 per County.

Summary of Enforcement Costs	
Current Enforcement Costs	Minimal
Estimated Enforcement Costs	\$1,600,000

Additionally, as detailed in the following section, this amount does not include a number of cost items that are difficult to quantify, but may be significant.

Other Impacts

In addition to those economic and fiscal impacts detailed above, there are a number of other impacts associated with ATV usage. This section details those impacts that are difficult or impossible to quantify given the scope of the study.

Environmental Costs

Currently, the extent and cost of environmental damage associated with ATV use is not being addressed. Additionally, there is little information available related to the cost of environmental mitigation of such problems as illegal ATV trails, or damage to wetlands resulting from illegal ATV usage. The following is a representative sample of evidence CA collected regarding the probable environmental costs associated with ATV use.

- Based on information from the U.S. Forest Service, the Chattahoochee and Oconee National Forests have approximately 550 miles of illegal trails. The cost just to revegetate these trails (non inclusive of any associated wetlands damage) is estimated at \$1 million, or nearly \$2,000 per mile of illegal trail. There exists no data as to the number or mileage of illegal trails in the Tug Hill Region on an aggregate or annual basis and CA found few cases where individuals, groups or governing bodies have attempted to revegetate the trails. However, anecdotal information from various stakeholders shows that illegal trails exist in the Tug Hill Region and probably exceed well over a hundred miles. Assuming costs are similar to re-vegetate illegal trails in the Tug Hill Region as elsewhere, the total fiscal impact would be significant if communities attempted to address the environmental damage in a comprehensive manner.
- According to information provided by the DEC and Tug Hill area ski clubs, a number of existing trails designed for non-motorized uses have been damaged by ATV usage. For example, the cost to repair damage to the Carpenter Road Ski Trail system includes \$25,000 for materials and \$10,000 to \$15,000 in labor to repair approximately 10 miles of trails. In another example, the Tug Hill Ski Club incurred significant costs repairing trails in the Winona State Forest that were damaged by ATV usage. These trails have been used on an annual basis for recreational skiing, ski events, snowmobiling, and dogsled racing and training.
- Wetlands are particularly critical habitats that are often subject to both state and federal protections. Wetlands are a natural buffer against flooding, improve water quality, and provide habitat for waterfowl and other types of animals. There is evidence that re-created wetlands do not perform these functions as effectively. Given this, when wetlands are destroyed they may never be effectively replaced.

In sum, although there is a lack of quantified evidence related to environmental costs associated with ATV use, these costs are likely substantial as compared to the other categories of fiscal impacts. Furthermore, the cost to repair existing and future damage would likely be substantial as well.

Social Costs and Benefits

In addition to these specific examples, there is also non-use value associated with ATV use. For example, wild areas in the Tug Hill region have an aesthetic and emotional value. Individuals who visit the region may do so because of the inherently natural/wild state of the environment and the solitude offered in this setting. As such, these individuals would likely visit the region less as ATV use increases.

Through research, interviews, focus group discussions and stakeholder feedback, CA identified a number of additional impacts associated with ATV use that are largely subjective or unquantifiable. Nevertheless, it is important to consider these items when determining public policy towards ATV usage. These impacts include:

■ Noise pollution

According to a report published by the Izaak Walton League of America, ATV's can be heard at distances of up to two miles. If a single ATV is heard within a radius of one mile, it has a "sound shed" - the area where people and wildlife are affected by its noise is approximately 3 or 4 square miles. When a single ATV travels 30 miles on a trail, in the course of a 2 or 3-hour ride, its sound is heard by people and wildlife within an area of almost 70 square miles.⁶

Noise pollution impacts a variety of individuals: private landowners who live near popular riding areas, hikers, hunters, bird watchers, and others. Noise pollution also negatively impacts wildlife; disrupting nesting grounds and causing stress to wildlife.

■ The crowding out effect

As noted by The Nature Conservancy in comments to CA, to a large extent, these individuals may feel their time in the outdoors is compromised if they are confronted with ATVs. In areas where these users overlap with ATV enthusiasts, they may effectively be "crowded out" from future use – meaning they will not pursue outdoor activities in areas where ATVs enthusiasts are known to frequent.

This crowding out effect is an important cost that would offset some of the economic effects of ATV use. If ATV use is supplanting already existing economic impacts (spending from other types of non-resident visitors), then the economic impact of ATV use is proportionally diminished. CA was not able to find existing sources of information that provide objective and conclusive data to describe this phenomenon as it relates to ATV use. However, multiple stakeholders reported that ATV use does indeed discourage other activities from occurring concurrently.

■ Illegal trespass

One of the most significant social-related costs associated with ATV use is trespass. As outlined in the Best Practices section of this report, ATV-related trespass has dramatically increased over the past decade as the number of ATV riders increases. In some cases, this has caused landowners to

⁶ Walter J. Breckenridge Chapter of the IWLA. Izaak Walton League of America. ATV Position Statement, Sept. 13, 2005.

close off land which had been open to the public for generations, thereby negatively impacting a whole myriad of user groups.

■ Property damage

Damage to environmentally sensitive public and private lands can be extremely difficult and costly to fix. In certain circumstances, landowners have been held responsible for costs associated with environmental damage, paying out hundreds of thousands of dollars for repair costs. In other cases, ATV's have damaged crops or carved out illegal trails through backyards. Landowners and law enforcement officials often have a difficult time catching offenders or even stopping damage from occurring. When barricades are put up to stop illegal riding, violators simply remove these obstacles and continue on their way. Furthermore, according to law enforcement officials, it can take months to catch violators and when they do, the repercussions can be minimal.

Private landowners, enforcement officials, and even communities have had such a difficult time mitigating damages caused by ATV use, that there is a growing backlash against ATV riders. This has negatively impacted responsible riders (and other sports groups), because increasingly both private and public lands are being closed for use.

■ Liability

Because of either environmental or personal liability suits resulting from ATV use, some landowners have become increasingly concerned about allowing access to their lands. An indirect cost to individual property owners can be described by the risk that they perceive to their personal financial situation from potential lawsuit resulting from an injury or death occurring on their property. While some stakeholders reported this issue, CA did not find any existing evidence of cases where this has occurred.

■ Spread of non-native plant species

Although the effects of spreading non-native flora species as a result of ATV use are unknown, there is a general concern by state officials and environmental groups that seeds lodged in ATV tires and frames could pose significant risk to the local environment.

■ Recreational benefits

ATV enthusiasts benefit from the ability to ride their machines on Tug Hill. These individuals are able to pursue an enjoyable activity, often with their families, and experience the outdoors. While not easy to quantify, there is a use value associated with this recreational opportunity for residents of Tug Hill, as they have the opportunity to pursue ATVing on a regular basis. If this opportunity were not available, they would have to pursue this activity in other areas.

■ Tourism infrastructure

ATV use helps to support tourism on Tug Hill. Due to this, tourism operators (hotels, motels, eating & drinking places, etc.) have additional funds available to invest in their businesses. As a result, other groups of tourists (hunters, fishermen, hikers, etc.) may be attracted to the region because these facilities are improved.

Potential Economic Impact – 25% Increase in Ridership

The next section of the analysis was intended to answer the question, “What would happen, in terms of economic and fiscal impacts, if ATV activity increased significantly in the Tug Hill Region?”

To answer this question, CA assumed a hypothetical example where the following conditions were met (1) a 25% increase occurred in ATV trips to the region from non-residents, and (2) a 25% decrease in trips in resident trips to areas outside the Tug Hill Region (thus recapturing formerly “lost” dollars in the economy).⁷

Based on the intercept survey results, Tug Hill residents currently amass a total of 437,855 ATV user days outside of Tug Hill. For the purposes of this analysis, CA assumes 109,464, or 25%, of these user days would now occur on Tug Hill. Additionally, the previous analysis assumed a total of 478,068 non-resident ATV user days on Tug Hill; this section assumes a 25% increase, bringing the total user days to 597,586 for an increase of 119,518. Therefore, the total number of “new” rider-days would be 228,982.

User Group	25% Increase in Riders
Residents	109,464
NonResidents	119,518
Total	228,982

Using the spending profiles of the resident and non-resident groups, describe above, the following are the estimated new spending resulting in this scenario.

New Spending in the Tug Hill Economy			
Expense Category	NonResident Expenditures	Resident Expenditures	Total Expenditures
Lodging	\$801,385	\$282,323	\$1,083,708
Food & Drink at Bars/Restaurants	\$1,932,495	\$857,264	\$2,789,759
Area Entertainment, Admissions	\$168,884	\$103,413	\$272,297
Shopping (Souvenirs, Clothes, etc.)	\$238,359	\$72,314	\$310,673
Gas (Purchased in Tug Hill Region)	\$742,906	\$397,442	\$1,140,347
Repairs	\$145,890	\$200,830	\$346,720
Convenience Stores (Not Gas)	\$225,198	\$124,665	\$349,863
Transportation to the Area	\$488,623	\$76,572	\$565,195
Gambling	\$0	\$15,203	\$15,203
ATV Equipment & Accessories	\$941,522	\$1,339,773	\$2,281,295
Other	\$81,519	\$24,767	\$106,286
Total Annual Expenditures	\$5,766,780	\$3,494,567	\$9,261,347

For non-residents, this amount would be \$5.8 million (more than the current economic impacts) and for residents, the direct economic impact would be \$3.5 million. In total, direct economic impacts would increase by a total of \$9.2 million.

⁷ For residents, these trips previously taken outside the Tug Hill region are now assumed to take place in the region. Due to this, the economic impact of these new trips is included in the analysis, whereas in the previous section trips within Tug Hill by residents were not specifically analyzed.

Increase in Sales, Employment and Wages				
Category	Sales	Wages	Employment	Estimated FTEs
Direct	\$9,261,347	\$3,148,712	227	102
Indirect	\$1,923,892	\$527,762	20	17
Induced	\$2,943,393	\$869,934	36	28
Total	\$14,128,632	\$4,546,408	284	147

In this scenario, CA estimates sales would increase \$14 million, employment would increase by 284 positions, while wages would increase by \$4.6 million. In terms of FTEs, this increased usage scenario use would support an additional 148 full-time equivalent positions. These positions are broken into industry categories below:

Increased Employment Supported by ATV Use			
Industry	Employment	Estimated FTEs	Wages
Food services and drinking places	84	32	\$992,882
Gasoline stations	47	24	\$748,801
Sporting goods	61	25	\$771,742
Hotels and motels	20	13	\$401,152
Miscellaneous store retailers	13	5	\$151,501
Other amusement	5	3	\$87,594
Automotive repair and maintenance	7	4	\$116,595
Total	284	148	\$4,546,424

As detailed in the current economic impacts section, the greatest impact in terms of both employment and wages occurs at food services and drinking places. In total, food services and drinking places account for nearly 1/3 of all jobs and 25% of total wages. Gasoline stations and sporting goods stores also figure prominently. Combined with food services and drinking places, these three industries account for roughly 2/3 of all jobs.

The table to the right illustrates those industries whose sales are supported by ATV use on Tug Hill. Food services and drinking places (22.7%), gasoline stations (16.2%), sporting goods (12.3%), and hotels and motels (7.8%) are the most significant categories, accounting for nearly 60% of all sales.

Increase in Industry Sales	
Industry	Sales
Food services and drinking places	\$2,988,869
Gasoline stations	\$2,083,467
Sporting goods	\$2,294,505
Hotels and motels	\$1,107,360
Miscellaneous store retailers	\$444,824
Owner-occupied dwellings	\$424,119
Automotive Repair and Maintenance	\$402,772
Total	\$14,128,656

Potential Fiscal Impacts – 25% Increase in Ridership

The following section details the fiscal impacts based on the same hypothetical increase in ATV usage detailed in the previous section. These impacts assume significant increases in ATV trips by both residents and non-residents.

Sales Taxes

Under this scenario the increased economic impacts of ATV use total \$9.3 million. From the taxable portion of those sales, CA determined that local sales tax receipts would increase by approximately \$409,000.

County	Sales Tax Rate	Increases in Sales Taxes
Jefferson	3.75%	\$90,178
Lewis	3.75%	\$90,178
Oneida	5.50%	\$132,261
Oswego	4.00%	\$96,190
Total		\$408,806

Occupancy Taxes

Increased ridership would result in accompanying increases in lodging demanded by non-resident ATV users. Under this scenario, ATV enthusiasts would account for roughly \$1.1 million in increased spending at hotels and motels, generating an additional \$35,989 in tax receipts for the four counties.

County	Occupancy Tax Rate	Increase in Occupancy Taxes
Jefferson	3.00%	\$8,305
Lewis	5.00%	\$13,842
Oneida	2.00%	\$5,537
Oswego	3.00%	\$8,305
Total		\$35,989

Property Taxes

A decrease in the number of trips taken by residents to riding areas outside Tug Hill would likely not result in these individuals purchasing 2nd homes or camps on Tug Hill, given their proximity to riding opportunities. However, an increase in the number of trips into the region by non-residents would likely result in a corresponding increase in 2nd home/camp ownership. Based on this assumption, the number of 2nd homes/camps attributable to ATV use would increase by 100 properties. In total, this would generate roughly \$31,000 in additional property taxes for the four County study area.

Enforcement Costs

In total, the known fiscal impacts would increase by approximately \$475,000 under this scenario. However, this total does not include enforcement costs, which were included in the section detailing current fiscal impacts. However, the costs of providing adequate enforcement would likely increase. As detailed previously, County Sheriff's departments are currently spending roughly \$100,000 on ATV enforcement for the Tug Hill region, but have stated \$400,000 per County is necessary. Given the 15% increase in ATV user days, these enforcement costs would likely increase by a corresponding amount, roughly \$240,000.

Changes to Quantifiable Fiscal Impacts

In total, under this scenario where ATV use on Tug Hill increases significantly, the four Counties would receive an additional \$415,000 in tax receipts, net of additional spending on enforcement. This amount includes an additional \$410,000 in sales tax receipts, \$36,000 in occupancy tax receipts, and \$31,000 in property tax receipts. Enforcement costs would likely increase in accordance with the additional number of ATV user days.

Changes to Quantifiable Fiscal Impacts	
Sales Taxes	\$408,806
Occupancy Taxes	\$35,989
Property Taxes	\$31,000
Net Impact	\$475,795

Other Impacts

As detailed in the previous section under “other impacts,” ATV use on Tug Hill results in a number of impacts that are difficult to quantify. Under a current scenario of increased usage, it is likely there would be a corresponding increase in such factors as environmental damage, noise pollution, conflicts with other trail users, and damage to private property.

Best Practices

Introduction

Throughout the research phase of this project, Camoin Associates identified numerous study areas and highlighted particular practices that have been used to best address a host of ATV related issues. Most communities and organizations have only recently begun to deal with the issues that can arise from ATV usage. Often, these communities and organizations experiment with a variety of methods to approach the issue, sometimes with mixed or adverse results. Complicating the issue is the fact that no two riding areas or trail management systems are alike. It is therefore difficult to cite one or two examples and employ them as trail management models. However, CA has attempted to identify individual actions, approaches or methods that have proven successful or show solid promise for effectiveness.

Enforcement, land use issues, availability of space, climate, soil composition, and public acceptance are just some of the key factors that can play a pivotal role towards the success or failure of trail management. Ultimately these external factors, which can be difficult to control, dictate how ATV policy is shaped for a particular community. Some communities face much larger challenges than others. They must therefore make the best decisions based on the information and resources they have, and build from there.

The following paragraphs cite a number of geographic areas located around the United States and explain the reasons why these areas or practices are successful. In many respects, it is more beneficial to examine the elements that have contributed to an area's success, rather than just looking at the area itself. Overwhelmingly, areas that demonstrate best practices build upon their strengths while mitigating their weaknesses. As such, the following section identifies the key issues impacting ATV use around the country, and draws on the experiences and methods employed by communities to leverage their strengths.

As with most complex issues, their components cannot always be easily separated. Many elements identified below are inexorably linked and often overlap.

Enforcement

Perhaps the most critical issue impacting ATVs is enforcement. Most communities do not have sufficient financial resources to provide effective law enforcement with respect to ATV use. Local police officers typically have other more pressing responsibilities that must be addressed on a daily basis.

Providing effective enforcement is difficult because popular riding venues typically



encompass vast and remote areas. Due to this, law enforcement officials have difficulty apprehending offenders because that person may have ample time to leave the area before law enforcement personnel arrive. In fact, law enforcement officials, from local police, to state and federal park authorities often face the same challenges – not enough resources and too much land to patrol to effectively enforce ATV riding.

While many areas have faced difficult challenges in providing enforcement, a few have been proactive, effecting positive change. In general, best practices ATV enforcement is not something that is accomplished in a vacuum. Often, local, state and federal authorities work together and in conjunction with other agencies to mitigate ATV issues.

The State of Maine has one of the most comprehensive enforcement mechanisms in place across the United States to deal with ATV use. Like many other areas, Maine has been experiencing a dramatic increase in the amount of ATV registrations throughout the past decade. Eight years ago, according to the Maine Deputy Commissioner of Inland Fisheries and Wildlife, there were 22,000 registered ATV's in the state. Currently this figure exceeds 112,000.

Along with the five-fold rise in ATV registrations, the number of complaints and infractions has also increased. As a result, Governor Baldacci assembled an ATV task force to provide recommendations on how to best grapple with this large increase in ATV usage. With respect to enforcement, the task force drafted a number of innovative recommendations to address illegal riding, environmental damage, and other critical issues.

For example, today *all law enforcement officials* in the state, including Federal officials, receive ATV-related training. Even fire officials also receive ATV training to better address safety and enforcement concerns.

Another law that Maine has adopted is the replacement of license plates with registration stickers. In the past, license plates would get encrusted with mud, making them unreadable. Law enforcement officials and individuals attempting to identify a rider committing an infraction often found it difficult or impossible because the plates were not visible. According to the Deputy Commissioner of Inland Fisheries and Wildlife, not only has enforcement become easier since license plates were replaced, it has become less expensive. By viewing the registration sticker placed on both sides of the off-highway vehicle (OHV), officials know to whom the machine is registered.

The state also implemented a novel concept linking ATV registrations with other state permits. If an individual commits a major infraction, such as trespass or property damage, the police will automatically revoke their hunting, fishing, trapping, boating, sea-doo, and snowmobile licenses. The person is then required to take a one-day, eight-hour outdoor ethics course costing \$100. Only after a person takes this course can they re-apply for their other permits. According to the Deputy Commissioner, this has had a dramatic effect in decreasing infractions.

Given an infraction can now invoke significant fines (which increased from a maximum of \$100 to a maximum of \$500); requires the completion of an ethics course and obtaining new permits; plus the costs of damage remediation, people are much more reluctant to break the law. In addition, the parents of anyone 16 years of age or younger are held financially and legally responsible for the infractions of that minor.

These innovative enforcement mechanisms have dramatically helped to stem the amount of complaints brought against ATV riders. Several years ago, the Department of Inland Fisheries and Wildlife received around 15 to 20 complaints **per week**. According to the Deputy Commissioner, today this number has decreased to about four or five complaints **per month**.

During the late 1990's Suffolk County, New York on Long Island experienced a growing number of ATV related accidents and infractions. In an effort to curtail illegal ATV use and improve safety, the Suffolk County Legislature enacted a local law authorizing enforcement personnel to seize and impound ATV's. Fines to recover seized vehicles can be set as high as \$3,000. The County Legislature also significantly increased fines for repeat offenders, imposing a maximum fine of \$5,000. The Legislature further adopted a "Truth-in-Selling" law that requires County dealerships to explain to customers the local laws restricting the use of ATV's in the County.

What is particularly interesting about the vehicle seizure and truth-in-selling laws is that they give County enforcement agencies the power to act locally. There is no need to generate support for initiatives at the state level, because the local governing body has the authority to enact laws in ways it deems most suitable to enforce public and environmental safety.

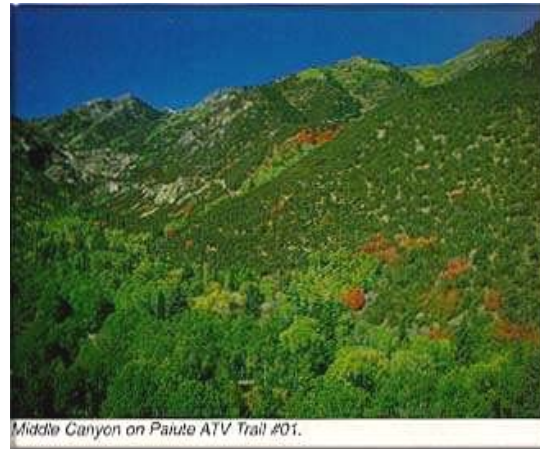
The Hatfield-McCoy Recreation Area has also adopted several novel enforcement mechanisms to curtail ATV-related infractions. For example, armed security personnel are posted at trailheads and along the trails to enforce rules and regulations that are clearly posted throughout the riding area. In addition, the West Virginia Legislature gave rangers patrolling the riding area full law enforcement authority.

Community Support

One of the first decisions an organization has to confront when planning for an ATV trail system is whether to locate it on public or private land. This decision is critical, because it can have enormous positive or negative consequences. For example, many legal off-road riding areas throughout the country are located on public lands, within national forests. In areas including the Allegheny National Forest in Pennsylvania, the White Mountain National Forest in Maine and New Hampshire, the Mark Twain National Forest in Missouri, and the Big Cypress National Reserve in Florida, the forest service has opened up land for ATV use. In each of these cases, forest service personnel were confronted with a dilemma over how to strike a balance between different user groups.

To achieve this balance, ATV use was permitted on forest service land. In many respects, the philosophy was that increasing legal ATV riding opportunities would increase revenues, local tourism, and decrease illegal ATV riding.

While there have been positive impacts (namely new revenue streams and providing recreation for a large number of ATVers) stemming from opening up lands in national forest areas, there have been visible negative outcomes as well. Opponents of ATV use cite environmental degradation, noise and water pollution, erosion and other negative impacts. In a number of these areas, visible public outcry has either caused the forest service to close trails or curtail future development of trails.



The cases cited above are not intended to imply that these areas are improperly managed. Rather, they are listed because opening up public lands in general raises numerous challenging issues. Based on the examples identified above, a “lesson learned” is that without public support and broad coalition building, it will be difficult to build a system that enjoys long-term public support.

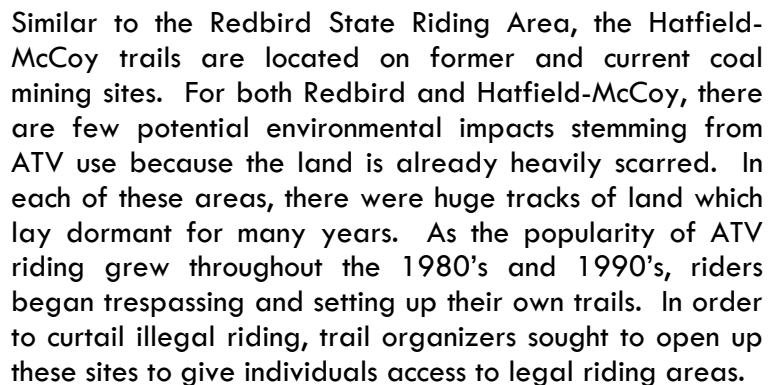
The Fishlake National Forest - Paiute ATV Trail in Utah is a noteworthy exception where cooperation among government agencies, private interests and the recreational public coexist in relative harmony. In fact, in 1995 the Paiute Trail became a model for two other Utah trail systems, the Fremont Trail and the Great Western Trail, and today serves as a benchmark for other national forest areas across the United States.

Public documents note that government and the private sector have been extremely proactive with respect to trail management. The Paiute ATV Trail is a joint venture involving more than 40 public and private entities. The Fishlake National Forest, the Bureau of Land Management, and the Utah Division of Parks and Recreation, administer the Trail.

The Paiute ATV Trail Committee, comprised of private individuals and representatives of local, state, and federal agencies, provides oversight and guidance of the trail. Local law enforcement, economic development boards, tourism councils and other local organizations also participate in this broad collaborative effort. In addition, volunteers from the Adopt-a-Trail program annually contribute thousands of hours towards trail maintenance and litter cleanup.

The Redbird State Riding Area is another example where cooperation among different state agencies and local organizations led to the successful creation of an OHV park. Located in western Indiana, the Redbird State Riding Area is sited on a former coal mine that had been abandoned since the 1950's. During the 1970's, OHV enthusiasts began riding on the land illegally. According to Gary DeLong, Chairman of the Indiana Trails

In terms of trail systems, the Hatfield-McCoy system is probably the best known in the country. Most of the land within the trail system is privately owned, and today the trail system comprises approximately 400 miles in 8 counties. The Hatfield-McCoy Regional Recreational Authority is an eight-county public corporation authorized by the West Virginia Legislature to provide trail administration. Hatfield-McCoy enjoys broad support and is cited as the primary tool in attracting tourism dollars to the economically depressed areas of southern West Virginia. Towns that lie in proximity to trails have even opened up connector roads so riders can fill up with gas, dine-out or stay the night.



The map displays the Shenandoah National Park region, including the Shenandoah River and surrounding towns. A legend at the bottom left identifies two types of locations: 'Open Riding Area' marked with a brown square icon and 'Affiliated ATV Park' marked with a blue square icon. The map shows several brown squares along the river and in the western part of the park, and several blue squares in the western and central parts of the park. Towns labeled on the map include Martinsburg, Hagerstown, Williamsport, Winchester, and Front Royal. The Shenandoah River is shown flowing through the center of the map.

¹ DeLong, Gary. OHV'ers Open Abandoned Mining Area. Blue Ribbon Magazine. 2005.

for liability insurance and a limited amount of trail maintenance.

The TrailPass system is comprised of four full-time employees and hundreds of volunteers from ATV clubs that perform a majority of trail maintenance work. These clubs, along with the Marine and Off-Road Recreation Enforcement (MORE) teams from the DEC, and other local and state law enforcement personnel patrol and monitor the trails.

For each of the examples cited above, OHV organizers had to overcome large hurdles – namely financial considerations and obtaining support from the general public. Whether establishing a system on public or private lands, organizers sought assistance from a host of organizations, the general public, and individual champions in order to get a trail system established. Without broad support and coalition building initiatives, establishing a trail system, either public or private will prove exceedingly difficult.

For example, according to published reports and officials from Hatfield-McCoy, residents from nearby towns were at first skeptical about building a trail system in proximity to their towns. Once the Legislature and many other organizations became involved in the process, however, community attitudes started to change in favor of the trail system. According to these same officials, many towns in southern West Virginia today that are not involved with the Hatfield-McCoy system are openly enthusiastic about potentially working with the organization to open trails in the future.

It must be noted that making direct comparisons between different locations should often be avoided. For example, the Hatfield-McCoy and Redbird areas are located on heavily scarred lands with past and present mining operations. What can be taken from the examples cited above, however, is that initially there may not have been much community support. After extensive consultations with local, state and even federal officials, support for each of the projects grew. Ultimately, after years of dedication by local champions to generate support, these projects ultimately came to fruition.

Safety

Safety is increasingly gaining attention within the ATV community as an important issue.² As ATV sales increase, so do the number of injuries and fatalities. According to the Canadian Institute for Health Information (CIHI) there was a 50% increase in ATV hospitalizations from 1997 to 2001. According to CIHI, speed, inexperience, improper apparel, not wearing a helmet and alcohol were common factors in accidents. Furthermore, only four percent of the drivers involved in injury incidents reported having had received training.



² Results from the ATV user survey showed safety to be one of the top concerns of riders in Tug Hill.

Despite the annual rise in ATV related accidents throughout North America, there is a general lack of focus at both the national and state levels towards ATV safety. Currently, no state or province mandates adult safety classes, and age restrictions and required youth safety and training courses vary considerably by state.

Given the increasing number of accidents, communities are being forced to dedicate additional and scarce resources (law enforcement, hospital care, etc.) towards ATV safety; however, many communities are having a difficult time instituting policies that promote safety.

There are a few notable exceptions. The Paiute ATV Trail is one example where safety plays a major focus in the overall design of the trail system. For starters, the trail system is clearly marketed upfront as a family sightseeing destination – not a technically challenging ATV thrill-seeking area. Trail planners also intentionally placed lots of curves with limited straight lines to keep speed at a minimum. In addition to course design, Paiute County publishes a 26 page Paiute ATV Trail website dedicated to safety, preserving the habitat and wildlife, as well as helpful hints and other interesting facts about the trail. (http://www.piute.org/Attractions/atv_trail/atv1.htm)

In Nova Scotia, the Voluntary Planning Off-Highway Vehicle Task Force has recommended that the provincial government make it mandatory for all drivers to complete an accredited off-highway vehicle training course. The Task Force also recommended restricting use of OHV machines for children 16 or under, or only under tighter regulations.³ Although these recommendations have not been enacted into law, it demonstrates that Nova Scotia is serious about addressing safety concerns.

Trespass

One of the most contentious issues surrounding ATV use is trespass. As the number of individuals taking part in the sport increases, so has the number of complaints by private landowners, public officials, and environmental groups about illegal riding.

ATV groups in the Tug Hill region have noted that illegal riding stems from the lack of legal riding areas, and that a small minority of individuals are responsible for a large percentage of complaints.



Additionally, this minority of individuals create problems for legal ATV enthusiasts. In Maine for example, landowner - ATV relations have become so strained that people who were originally sympathetic to ATV riding are now closing their lands.⁴ As a result, the

³ Final Report of the Voluntary Planning Off-Highway Vehicle Task Force. November 2004.

⁴ Scruggs, Roberta. Landowner Relations, "A Practical Guide to Preserving Public Access to Private Lands."

amount of legal riding opportunities have decreased somewhat for all ATVers. As noted previously, local law enforcement officials often lack the resources to quickly respond to complaints. During interviews with law enforcement officials from the Tug Hill Region, officers complained that local judges often dismissed citations against trespass violators, or were reluctant to pass out stiff fines to local residents.

Trespass is occurring on public lands that are closed to motorized uses as well. According to an Allegheny National Forest ranger, an estimated 5% of riding occurs illegally, usually in the more remote sections of the forest. Despite an abundance of legal riding opportunities in the Chattahoochee and Oconee National Forests, the U.S. Forest Service estimated 550 miles of illegal trails were created. According to research, in almost every public place allowing legal ATV use there is additional illegal riding.

A number of states have given this issue considerable attention. In Minnesota, the OHV Responsible Rider bill is currently in committee and has the support of over 50 associations from across the state. This bill (*if passed*) would increase fines for violations, place violations on a driver's record, create a telephone hotline to report violations, seize vehicles from repeat offenders, and extend the life of a state fund dedicated to restoring damage done by illegal OHV riders.

As cited earlier, Maine has begun imposing stiffer penalties for violators by increasing fines from \$100 to \$500, requiring an ethics course for those committing offenses, and linking ATV licenses to hunting, fishing, boating and other licenses. According to officials, this has had a positive impact in reducing complaints of trespass.

Officials also state that individual landowners are increasingly installing surveillance cameras to deter and/or catch trespassers. To date, the effects of installing cameras to deter trespass are unknown; however, it is generally accepted that individuals are less likely to commit offenses if they are concerned with the possibility of being penalized.

As a result of increasing violations, the Suffolk County, NY legislature enacted laws authorizing enforcement personnel to seize ATV's and impose significant fines on violators. In addition, the legislature enacted a truth-in-selling law to reduce the amounts of ATV-related complaints.

Environmental Mitigation

Another contentious issue impacting ATV policy involves environmental damage and the mitigation of that damage. ATV damage is visible and very expensive to fix, adding credence to the argument that ATV's should be banned from national forests and other public areas. This issue is intrinsically linked to trespass and enforcement, and has caused heavy public outcry.

As noted previously, law enforcement officials rarely have the resources to provide adequate enforcement. Additionally, local and state agencies often do not have the money to fix damages. Further, it is difficult to deter ATV use on illegal trails. Given the

ability of ATVs to travel through a variety of terrain, gates or barricades are rarely effective.

In New Jersey, which does not allow ATV riding on any public lands, environmental damage became such a problem that the state enacted a law that would hold violators responsible for damages caused in wildlife management areas. Specifically, they can be fined for damages, including the cost of restoring natural resource damages.⁵

One initiative currently under consideration by the Maine Legislature is the establishment of a Damage Mitigation Fund. This fund would be created using monies derived from ATV registrations and would help private landowners to pay for any damages resulting from ATV use. According to Paul Jacques, Deputy Commissioner, Inland Fisheries and Wildlife, (who is also the Chairman of the ATV Task Force) because of a budget shortfall, the legislature has been unable to allocate monies to establish this fund, but will look further at this in the future.



Another broad initiative involves partnerships between ATV clubs and landowners. At both the public and private levels, clubs in places like Maine, New York State, and Utah are increasingly working with landowners to mitigate environmental impacts. According to Chris Connelly, President of TrailPass™, ATV clubs are well aware that while private landowners have established legal riding areas, they are capable of taking away that right if abuse or neglect occurs. Subsequently, club members have been instrumental in volunteering their time to build bridges across streams and maintain trails.

A report published by Roberta Scruggs “Landowner Relations – A Practical Guide to Preserving Public Access to Private Lands” echoes this sentiment. According to a Department of Conservation official, when the state has worked with local clubs, it has been educational for all groups to see and understand all of the issues. At the Fishlake National Forest: Paiute ATV Trail in Utah, volunteers dedicate time towards cleaning up litter and helping with trail maintenance and environmental mitigation issues.

Mixed – Use Trails

The concept of mixing ATV use with other trail users has been growing for many areas throughout the United States and Canada. Many enthusiasts and clubs are eager to assimilate trails for mixed-use purposes, usually snowmobile / ATV and horseback / ATV / snowmobiling. In places including Nebraska and the TrailPass system in New York, officials are looking at the possibility of further developing a link between different user groups.

⁵ Karasin, Leslie. Wildlife Conservation Society. All Terrain Vehicles in the Adirondacks – Working Paper No. 21. April 2003.

To date, there are few areas with overlap. Snowmobile clubs and national forest areas are reluctant to allow ATV use in areas typically allocated for snowmobile use. The rationale is that ATV use causes significantly more degradation than snowmobiling, thereby driving up maintenance costs. For example, in areas surrounding the Algonquin Provincial Park, in Ontario, Canada, tour operators have begun offering guided ATV tours. Algonquin Park is one of the largest parks in Canada, encompassing over 7,000 square kilometers. Although ATV use is not permitted in the park, outdoor ATV tour operators legally take adventurers across public and private land for ATV excursions. Unfortunately, there is a growing concern by many residents and environmental groups that tour operators are taking customers through fragile river beds and across environmentally sensitive lands, sometimes causing damage. (A glance at the websites for the ATV tour operators in this area only reinforces this notion including photos of ATV riders ripping up trails and driving large convoys through riverbeds.) As a result, there is growing pressure to sharply curtail the use of ATVs around the park. In other areas such as Maine it is explicitly illegal for ATVs to ride on snowmobile trails.

In a few areas, the ATV and snowmobile clubs have begun working together to offset some of the trail maintenance costs. Recently, a snowmobile club and an ATV group located in Lake George, NY jointly worked together on a bridge section of some limited trail acreage which share uses amongst ATVs and snowmobiles. In Nebraska, officials are looking at ways to make trails compatible for both snowmobile and ATV use, because with the limited amount of snowfall typical to many parts of Nebraska, snowmobile trails have limited financing available.

The Hatfield-McCoy Trail system is one of the few examples where there is a shared-use between ATVs and other activities. Here, hikers, mountain bikers and equestrian are all permitted on the trail system. However, it must be noted that the *de facto* result is that many trails are used exclusively by ATV riders.

As evidenced above, there are few real world examples where ATV riding coexists with other uses. There is a prevalent notion that ATV use dramatically and negatively impacts the environment, where snowmobiles are less damaging and are used during months when the trails receive little use from hikers, birdwatchers, etc. As a result, it appears inaccurate to assume that there are large-scale areas capable of truly accommodating multiple-use trails when ATVs are involved.

Grant Programs

In order to create increased riding opportunities, states including Minnesota, New Hampshire and Pennsylvania created a Trails Assistance Program, popularly known as the grants-in-aid (GIA) program. This program provides money to non-profit and for-profit organizations to design, construct and maintain trail systems on private lands. This program was established largely in these states to shift sole responsibility away from public ATV trails located on state and national forest lands. According to officials from the Pennsylvania Department of Conservation and Natural Resources, this has helped to take the pressure off forest lands.

In New Hampshire, the Grant in Aid Program facilitates trail development on state, federal and private lands. Managed through the New Hampshire Bureau of Trails, this program makes funding available from ATV registration fees and the Recreational Trail Program [gas tax] to clubs that have received permission from private landowners who are willing to open property to ATV riders. According to the Wildlife Conservation Society, approximately 500 miles of trails have been created on private lands. In addition, over 220 miles of ATV trails have been established on state lands through this program.

Landowner Liability

Given the fact that riding opportunities in national forests and other public riding areas are decreasing, clubs have begun to look at private lands as a viable alternative to public lands. In most cases, clubs are unable to purchase land outright for ATV use because costs are too prohibitive.

In response, clubs typically ask landowners for permission to use their lands. Although some individuals and corporations have opened up lands to ATVs, many are reluctant to do so because of liability issues. In many states, landowner liability is not clearly defined. There are usually laws outlining landowner liability, but the total legal ramifications may be confusing. For example, NYS General Obligations Law 9-103 protects landowners from liability as long as a fee is not charged for recreational use of the property, however the law does not protect landowners from being sued and accruing the associated legal costs.⁶ In Alaska, the recreational use statute (AS 09.65.200) provides tort immunities for injuries or death occurring on unimproved lands. However, this statute only applies to unimproved lands. The law becomes more ambiguous if a landowner does something to alter the landscape. In this case, the landowner may not be entirely covered.

In reality, the fear of a lawsuit is disproportionate to the actual risk of a lawsuit. According to a study published by the Kenai Peninsula Borough in 1998, a total of 380 appellate cases in the 50 states involved recreational statutes between 1982 and 1992.⁷ Of the 380 cases, 23% or approximately 87 were won by the plaintiff (the recreational ATV user). Nevertheless, the prospect of a potential lawsuit has had a particularly chilling effect on landowners.

Further complicating this issue is environmental liability. If an ATV rider causes environmental damage, it can be unclear if the landowner must mitigate the damages. For example, the Portland Natural Gas Transmission System (PNG) in Maine began experiencing trespass and subsequent environmental damage related to illegal ATV use along one of its pipelines. By law, PNG was required to restore the lands to their previous conditions and attempt to stop the illegal ATV use. After several failed attempts,

⁶ Tug Hill Commission Issue Paper Series – Draft “ATVs In the Tug Hill Region: Issues to Consider. August 2004.

⁷ Kenai Peninsula Borough Trail Plan. December 1998.

Maine authorities agreed that PNG had made a reasonable attempt to regulate illegal use; but not before PNG paid out almost \$200,000 for restoration and repair costs.⁸

In addition, there is almost no recourse to reimburse landowners for crop, orchard, tree, etc. damage caused by ATVs. As explained above, it is often difficult to catch the culprit responsible for environmental damages. Without proof and positive identification of the guilty party, it is often up to the landowner to remedy environmental damage.

Again, this has resulted in landowners closing their lands, not only to ATV riders, but to other user groups as well. In Maine for example, it is common for hunters, snowmobilers, ATV riders and many other sports enthusiasts to utilize private lands when recreating. In many cases, any person wishing to recreate on another person's land must first get permission to use that land.

As the number of ATV accidents mounted in the 1990's, landowners became fearful of potential lawsuits stemming from ATV injuries. In addition, landowners were responsible for any environmental damage caused by ATV's. As a result, many landowners began closing their lands to ATVs. In Maine however, 94% of the land is privately owned. If landowners continued to close off lands, there would be very little space for individuals to go.

To counteract this trend, the State Legislature passed laws in 2002 limiting a landowner's liability for accidents and environmental damage caused by ATV riders. These laws also stipulated that if a plaintiff brought a lawsuit against a landowner and lost, the plaintiff would be required to pay all legal fees and court costs. Ultimately, the results of these measures caused landowners to open up more acreage to ATV enthusiasts. In addition, although legislation has not been passed yet, lawmakers are attempting to adopt a law that would create an environmental mitigation fund, which would pay landowners for routing maintenance and repair costs associated with ATV use.

At the private level, TrailPass has addressed the liability issue by paying for a landowner's liability insurance. Once TrailPass management has identified a particular area that may be well-suited for an ATV trail, they approach a landowner and get permission to use this land. In return, using TrailPass fees as a revenue source, they pay for the liability insurance. According to TrailPass president Chris Connelly, this has had a very positive effect. Landowners understand that TrailPass will cover insurance costs, but will also help to maintain the trails.

Conclusions

As evidenced above, there are a number of serious issues impacting ATV use across North America. Each poses significant challenges to communities attempting to address the rise in ATV use. However, in most cases the results have been mixed. As cited earlier, ATV enthusiasts, environmentalists, landowners, enforcement officials and the general public

⁸ The University of Maine, Margaret Chase Smith Policy Center. Economic Contributions of ATV-Related Activities in Maine. March 2005.

are often at odds about how to address the growth in use. In addition, there are not always transparent or easily addressable ways to solve these problems.

As the growth of ATV sales continues, communities will be forced to address difficult new situations. Enforcement, safety, environmental mitigation, landowner liability, and trespass are just some of the issues that are now concerning community residents. Many of these challenges and concerns were not prevalent ten years ago, but they are today.

Communities that are proactive in responding to them may not necessarily completely alleviate ATV-related issues, but they will likely be better positioned to manage them. As evidenced from the examples cited throughout this section, communities that do not directly address these problems often only cause increased tension among ATV sportsmen and non-ATV users. Those that play to their strengths, or directly address concerns can dramatically minimize negative impacts and even draw out the positives.

Although it is often difficult to directly compare different areas with one another, the situations faced in most communities are often similar. Enforcement, trespass, environmental damage, and liability issues (to name a few) are increasingly cropping up in many communities across North America. By looking at what other communities are doing, one can assess what works and what has been less successful, then apply those principles to affect a positive outcome at the local level.

Trail System Costs

One of the elements of analysis for this report is to examine the potential costs of establishing ATV trails in the Tug Hill Region. Because there are many different ways that such a trail system could be managed and funded, Camoin Associates looked at four different scenarios of ownership. In each case, the system examined would involve the creation of 40 miles of new ATV trails on Tug Hill.

The first example is based on a purely public system, where all construction, management, mitigation and funding were to fall under a single County government's purview. The 2nd example illustrates a trail system jointly built and managed by a public authority and by ATV clubs. The 3rd example illustrates a trail system that is wholly privately managed, but receives public funding for trail development. Finally, the 4th example is one where the 40 miles of off-road trails (sited primarily on public reforestation lands) are connected using existing rural town and county roads specifically designated for ATV use.

Please note that, for the figures below, the cost of enforcement and environmental mitigation for existing levels of ATV use is not included because the analysis in each scenario involves the enumeration of the potential revenues and expenditures associated only with the proposed new trail system.

Construction Costs and Assumptions

Based on reported costs from several existing trail systems and riding areas, research into comparable land management situations and in-depth interviews with Mike Garrison of the Professional Trail Builders Association, CA estimates that trail construction in the Tug Hill Region would average \$20,000 per mile. This cost estimate assumes that the trail would be properly sited on land that is most amenable to ATV riding, which would allow for relatively low-cost construction and would minimize the potential for environmental degradation. Therefore, construction costs for 40 miles of trails would total \$800,000. Additionally, construction preparation costs, including siting of the trail, would total approximately \$75,000.

A further assumption is the land for the ATV trail would be available at no cost. The trails would be sited entirely on County land, or land owned by privately held ATV clubs. Therefore, there would be no cost for land acquisition and/or easements.

Based on information from the Allegheny National Forest, which administers ATV trails requiring a permit, CA assumes the 40 mile trail system would support a maximum of 3,600 permit holders. Assuming a cost of \$25 per permit¹, the trail system would generate \$90,000 in permit revenues per year. The permit fee is also similar to Allegheny National Forest permit fees, which total \$35 for an annual pass and \$10 for a daily pass.

¹ As per the results of the trail intercept survey, where responses indicated that most users would agree to a \$25 fee increase for access to better trails.

Note: All revenues and expenditures are presented only with respect to the operations of the trail system itself, and do not include other costs or benefits that the County may incur based on ridership on the trail system. All figures are shown on an annual basis.

Example One: Public Trail System

As explained above, the first hypothetical trail system assumes that a single County in the Tug Hill Region would take it upon itself to site, construct, finance and manage a new 40-mile trail system.

As shown in the table below, if the County bonds for the construction costs of the trail system, annual principal and interest payments would total \$63,568. The capital outlay includes \$75,000 for pre-construction work and \$800,000 for construction.

Public Construction Costs	
Item	Description
Total Funding Required	\$875,000
Annual Interest Rate	6.0%
Payback Period	30 Years
Annual Bond Costs	\$63,568

In addition to the up-front capital outlay, the County would also be responsible for the operating costs of the new system. Camoin Associates relied on the detailed estimates provided by the proposed Treaty Line Unit Management Plan, which assumed a cost of \$200,000 annually for management and staffing as well as trail upkeep. Additionally, CA estimates costs of \$80,000 for environmental mitigation², and \$20,000 for liability insurance³.

Direct Revenues	Amount
# of Permit Holders	3,600
Permit Fee	\$25
Total Permit Revenue	\$90,000
Direct Expenditures	Amount
Construction Financing	\$63,568
Trail Management	\$200,000
Environmental Mitigation	\$80,000
Liability Insurance	\$20,000
Total Expenditures	\$363,568
Net	-\$273,568

Comparing expected revenues to expenditures, a public trail system would have a cash shortfall of \$273,568. In other words, the public authority would be required to subsidize the trail system by this amount each year to keep it operational.

² The figure of \$2,000 per mile of trail is taken from research done in the context of the "other impacts" section of this report.

³ Based on estimates from representatives of TrailPass of per-mile liability insurance.

Example Two: Hybrid Public-Private Trail System

In the case of a hybrid trail system, a County would enter into a cooperative arrangement with one or more ATV Clubs and/or private land owners for the creation of a public/private trail system. This system would use both privately and publicly-held land. For the purposes of illustration, CA assumed 30 miles would be privately owned and managed by ATV clubs and 10 miles would be publicly owned trails and/or road systems.⁴ This hybrid system is designed to represent a limited public investment to connect a series of new private trails.

The assumptions of this scenario are that (1) the 10 miles of publicly held trails would cost \$20,000 per mile, (2) the County would subsidize trail development in the amount of \$10,000 per mile over 30 miles of privately held trails, (3) \$75,000 of pre-construction planning costs would be assumed wholly by the County, and (4) the County would receive \$10 for each permit purchased, while the host ATV club would receive the remainder (\$15). The balance of construction costs would be borne by the ATV Club(s) through in-kind work and direct cash investment.

Public Construction Costs	
Item	Description
Total Funding Required	\$575,000
Annual Interest Rate	6.0%
Payback Period	30 Years
Annual Bond Costs	\$41,773

Based on these assumptions, construction costs would total \$575,000, or \$41,773 on an annual basis. Further, the host County would realize \$36,000 in permit revenues, as compared to \$90,000 in the previous example.

CA further assumed that trail maintenance costs are lowered from \$200,000 to \$155,000 (a decrease of \$45,000 per year through the use of ATV volunteer labor), and that private ATV clubs would be responsible for liability insurance for that portion of the trail on privately held lands. Due to this, the host County would incur liability insurance costs totaling \$5,000.

The hybrid trail system scenario would result in an annual cash shortfall of approximately \$245,773 for the host County.

Direct Revenues	Amount
# of Permit Holders	3,600
Permit Fee	\$10
Total Permit Revenue	\$36,000
Direct Expenditures	Amount
Trail Construction	\$41,773
Trail Management	\$155,000
Environmental Mitigation	\$80,000
Liability Insurance	\$5,000
Total Expenditures	\$281,773
Net	-\$245,773

⁴ Camoin Associates recognizes that there are pending legal issues that currently restrict how and in what manner public roads can be used by ATVs. However, for this example, CA assumes that any publicly held sections of the trail system would allow for legal ATV use.

Example Three: Private System with Limited Public Funding

As a final scenario, Camoin Associates assumed that all 40 miles of trails would be built and managed by private parties, with limited public assistance from one of the counties on Tug Hill. [Note that this scenario is not consistent with any existing trail programs in New York State.]

In this scenario, the clubs and landowners themselves would be responsible for the legal use of ATVs on their property and would incur all costs related to construction, maintenance, environmental mitigation, and liability insurance. They would be able to charge a fee to their users (or club members) for access to the trail system.

For purposes of illustration, it was further assumed that the County in which the trail system is located would contribute financing of \$275,000 (\$5,000 per mile plus \$75,000 for pre-construction costs) for trail construction as well as \$100,000 annually for trail maintenance and land management oversight. The balance of construction and management costs would be borne by private parties. The receipt of the annual public contribution would be contingent on the trail operator's meeting of minimum performance standards for environmental protection and trail upkeep.

Public Construction Costs	
Item	Description
Total Funding Required	\$275,000
Annual Interest Rate	6.0%
Payback Period	30 Years
Annual Bond Costs	\$19,785

The table at right shows only those expenditures incurred by the County in question. In this example, the host County would not receive any fee revenue. ATV Club costs are not accounted for.

Direct Revenues	Amount
None	\$0
Direct Expenditures	Amount
Trail Construction	\$19,978
Trail Management	\$100,000
Total Expenditures	\$119,978
Net	-\$119,978

Therefore, a privately owned and managed system, in this scenario, would require an annual investment of approximately \$119,000 by the host County, or approximately half of the annual shortfall shown in the preceding two scenarios.

Example Four: Networked Off-Road System

The fourth hypothetical trail system assumes that a County in the Tug Hill Region would take several individual sites (predominately on public reforestation lands) of varying sizes and build a total of 40 miles of new trails. Each site would contain 5-10 miles of off-road trails and these individual sections would then be officially connected using existing rural town and county roads specifically designated for this purpose.⁵ The County in question would site, construct, finance and manage the off-road trail system and would determine how the connections between the sites would be made using existing roads.

As shown in the table below, if the County bonds for the construction costs of the trail system, annual principal and interest payments would total \$63,568. The capital outlay includes \$75,000 for pre-construction work and \$800,000 for construction.

Public Construction Costs	
Item	Description
Total Funding Required	\$875,000
Annual Interest Rate	6.0%
Payback Period	30 Years
Annual Bond Costs	\$63,568

In addition to the up-front capital outlay, the County would also be responsible for the operating costs of the new system. As with scenario one (Public Trail System), Camoin Associates assumed a cost of \$200,000 annually for management and staffing as well as trail upkeep. Additionally, CA estimates costs of \$80,000 for environmental mitigation.

Unlike scenario one, it may not be possible or expedient for the County to charge a permit fee, since the proposed system relies on public roads for connections between off-road sites. Because of this, it would likely be critical for the County to have access the proposed ATV Trail Fund to help offset the capital and operating costs of this scenario, described below⁶. For the moment, however, these funds are not available and therefore cannot be considered as part of the revenues and expenditures of a trail system under this scenario. Additionally, by not charging a permit fee, the liability issues associated with the other types of trail systems discussed above are less problematic and therefore it is unlikely that the County would have to incur costs of maintaining additional liability insurance.

⁵ Based on an informal opinion of from the Attorney General's office, it appears that this practice may be legal under the current motor vehicle laws. However, Camoin Associates recommends that this assumption be verified by a qualified legal expert.

⁶ Since the County would not be charging a permit fee, it would be eligible (under the proposed regulations) to receive funding from the ATV Trail Fund.

Direct Revenues	Amount
ATV Trail Fund	Unknown
Direct Expenditures	Amount
Construction Financing	\$63,568
Trail Management	\$200,000
Environmental Mitigation	\$80,000
Total Expenditures	\$343,568
Net	-\$343,568

Comparing expected revenues to expenditures, a networked off-road trail system would have an annual cash shortfall of \$343,568. In other words, the public authority would be required to subsidize the trail system by this amount each year to keep it operational.

Conclusions

Based on the examples presented above, the fee revenue from the hypothetical trail systems would not be sufficient to cover the investment costs for the host County for either a public or hybrid trail system. These trail systems would require a substantial public investment; in each instance the total would be in excess of \$200,000 per year. However, a host County could substantially lower its costs and support a trail system by providing funding for the development of a private trail system.

As detailed in the current economic impacts, there is a significant economic impact to the Tug Hill counties due to visitor spending on ATV trips. By partially financing a trail system, even if it operates at a loss, the host County could realize increased visitor spending by making a substantial annual investment. To the extent the host County could market itself as a destination for ATV riding in the Northeast, ATV related tourism and spending would increase and could provide additional economic and fiscal impacts.

By financing a private trail system the host County would avoid a host of difficult management issues associated with publicly managed ATV trails⁷. Additionally, a private trail system may conflict less other trail users, such as hunters, skiers, hikers, or bird watchers, since it occurring on land that has been dedicated to that purpose.

⁷ As demonstrated anecdotally in the background and comparative research done in the context of this report.

Recommendations

Enforcement

■ **Concentrate resources for adequate ATV enforcement**

Throughout this study, CA found that stakeholders consistently agreed that enforcement of ATV use is key to dealing with a number of ATV-related issues such as environmental damage, safety issues, destruction of private property, trespass, noise pollution, etc. CA therefore suggests that the Cooperative Tug Hill Council target increased ATV enforcement as its top priority. Some of the actions steps involve encouraging the region's governments to fund additional sheriff patrols devoted to ATV enforcement, helping ATV clubs to self-enforce, lobbying for additional DEC enforcement and a number of other suggestions, listed below in this and other sections.

■ **Tie ATV registration to other outdoor permits**

The State of Maine has had significant success reducing the number of ATV related violations by linking ATV registration with other state permits, including hunting, fishing, trapping, boating, sea-doo, and snowmobile license privileges.

As with the State of Maine, ATV enthusiasts surveyed have high participation rates for these other activities. As such, this approach is likely to be successful in New York. It would, however, require legislative action to be taken.

■ **Easier identification of ATV riders and vehicles**

Legally registered vehicles in New York State have license plates mounted on the rear of the vehicle, with a registration sticker on the plate. The plates often become encrusted with mud, which makes identification of the vehicle and/or owner difficult or impossible. Other organizations, including ATV clubs, commonly employ large helmet stickers to identify club members. CA recommends the CTHC take steps to develop similar policies regarding ATVs in New York State.

■ **Additional suggestion for enforcement mechanisms are listed below under "Legislative Actions."**

New Trails and Trail Systems

■ To the maximum extent possible, use private land for siting trails

As demonstrated in the section of the report regarding trail construction costs, trails that are cited on private land and administered by private ATV clubs are currently the most cost effective option. In particular, the use of volunteer labor and the self-policing of ATV clubs drastically reduce costs. ATV Clubs can also charge a fee for use of the trails that helps offset the expenses of running a trail system.

Furthermore, a public trail system would require management oversight by a public agency with a number of legal and liability issues that are problematic. Siting trails on public land has been very controversial in the past both in New York State and elsewhere and can often lead to negative public reactions.

Therefore, CA recommends that any efforts for the expansion of riding opportunities first be considered on private land.

■ Take particular care when siting and building new trails

Properly siting trail systems can reduce a number of problems, including public opposition, environmental damage and the “crowding out” effect where ATV use displaces other already-existing uses. Building high-quality trails is important in terms of reducing maintenance costs and ecological harm. It is also beneficial to site trails in close proximity to one other to concentrate ATV use in a particular area. Finally, siting trails that have clear and controllable entry/exit points helps for enforcement and monitoring purposes.

Legislative Actions

■ Clarify the legal status of ATVs

The legal status of ATVs is unclear and there has been a recent informal opinion of the Attorney General's Office that has further called into doubt the legality of ATV use on public roads. The ambiguity of the legal status of ATV use is an impediment to planning for future ATV activity and has implications on how the sport could develop. CA recommends that legislative action be taken by New York State to clarify this issue. Furthermore, the debate is still open as to whether the OPRHP or DMV ought to be responsible for the issuance of ATV registrations and whether they should be considered "motor vehicles" or "motorized vehicles."

■ Allow photos as proof of ATV violations and allow fines to be issued to the owner

A number of states/localities have adopted laws wherein photos of a violation are sufficient proof to fine the owner of the vehicle. A common example of this is practice is cameras mounted on traffic lights which take pictures of vehicles that cross the intersection when the traffic light is red.

Identifying individuals on ATVs is often difficult due to helmet laws and other practical concerns. As such, a picture that positively identifies the vehicle (i.e. a picture that shows the license plate) would allow for easier identification of violators of the law and better enable property owners to protect their land.

One of the reasons that land owners may be currently opposed to ATV use is that they feel powerless to deal with trespass and property damage when it does occur. Allowing photographic evidence would provide those owners the ability to protect their personal interests and make them more willing to allow limited ATV use on their property. This would also empower ATV clubs to further their efforts at self-policing.

■ Impose "truth in selling" laws, requiring local ATV dealers to explain to customers laws restricting ATV use, legal riding areas, etc.

Through a number of interviews with ATV enthusiasts, trail managers, and law enforcement officials, CA learned that individuals may purchase ATVs with little knowledge of legal riding opportunities. As such, the number of ATV-related violations could potentially be reduced through truth in selling laws, wherein ATV dealers are required to explain these matters to customers.

■ Clarify liability issues of ATV use on private land

Many landowners are reluctant to open their property to ATV use because of liability concerns. Currently, NYS General Obligations Law 9-103 protects landowners from liability as long as a fee is not charged for recreational use of the property. However

the law does not protect landowners from being sued and accruing the associated legal costs, which can be substantial.

CA recognizes that there are obstacles to resolving the liability issue with respect to ATV use on private land because it would require basic tort reform within New York State. However, once liability issues are dealt with, private land owners may be more willing to consider siting ATV trails on their property.

■ **Increase trespass/damage fines**

As detailed in the fiscal impact analysis, there is a substantial gap between current enforcement spending and the funding necessary to provide proper enforcement. As such, an increase in fines for individuals apprehended for trespass or damage to property would serve to deter illegal ATV activity. Additionally, this additional revenue could be used to bridge the gap between current enforcement spending and funding needs, since a portion of fines are given to the issuing agency.

■ **Use a sliding scale for registration fees based on club membership**

Throughout the course of the study, CA learned that ATV clubs perform some of the needed maintenance for ATV trails throughout New York State. Additionally, ATV clubs conduct self-policing and engage in activities to mitigate damage done to property by illegal ATV use.

Based on this information, CA recommends that ATV clubs and state officials engage in a lobbying effort to increase registration fees for individuals who are not ATV club members. This would both encourage ATV Club membership while also raising additional revenue for a future ATV trail fund.

Environmental Mitigation

■ Conduct an assessment of ATV damage

In the course of the study, CA found that there is no data available regarding the number of miles of illegal trails, the extent of wetlands damage or of the scope of private property damage in the Tug Hill region. To understand and fully appreciate the impact of ATV use in the context of a public policy debate, a study of the current environmental impact is necessary.

■ Higher registration fees

Given the high costs associated with constructing and maintaining ATV trails, environmental mitigation, and enforcement, ATV registration fees should be increased to cover a greater percentage of these costs. Additionally, a portion of registration fees should be directed towards these categories of expenditures, with a majority of the funds directed towards increased enforcement.

Economic, Fiscal and Other Impacts

■ Focus marketing on family venues to attract the most lucrative slice of the market

Based on a combination of survey results and information obtained through interviews with local law enforcement officials, there are several advantages associated with the “family oriented” market segment.

According to local law enforcement officials, families that pursue ATV riding are significantly less likely to commit infractions. These groups are also less likely to ride aggressively, reducing their risk of injury. Although not specifically analyzed in the case of ATV use, family travel groups typically have higher spending levels as compared to other individuals and groups pursuing ATV riding.

■ Make an effort to recapture some of the ATV dollars that are currently leaving the economy

As a part of the report, CA detailed the economic and fiscal impacts associated with a significant increase in ATV activity in the Tug Hill region. Part of this analysis addressed spending by Tug Hill residents on ATVs **outside** of Tug Hill. In total, residents take over 400,000 trips per year to use their ATVs outside of Tug Hill, and have significant expenditures during these trips. Capturing 25% of this spending would increase the total economic impact of ATV use by \$3.5 million per year.

■ Conduct a survey of Tug Hill residents (ATV and non ATV users) to gauge their opinion of the situation

As detailed in the section of this report on trail system costs, an annual public investment would be needed to support the construction and maintenance of an ATV trail system. Understanding the position of the general public on ATV use would be important in deciding whether or not to subsidize an ATV trail system.

Although ATV users were surveyed as part of the analysis, CA did not survey the general public to gauge their opinions and willingness to support a public investment in ATV infrastructure. As such, local officials should undertake this task to make informed decisions regarding ATV policy.