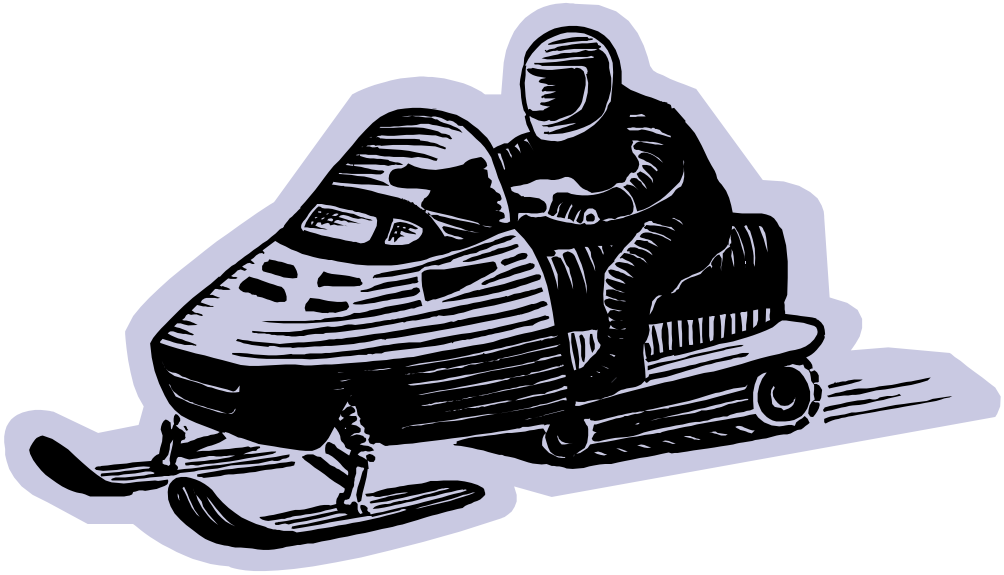
Snowmobiling in Minnesota:
Economic impact and consumer profile



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SUMMARY ECONOMIC RESULTS

Two surveys and secondary data were used to ascertain snowmobiling economic activity and impact. In cooperation with Minnesota United Snowmobiling Association (MnUSA) and the Department of Natural Resources (DNR), a mail survey of Minnesotan's with registered snowmobiles was implemented, as was a mail survey to snowmobile retailers and manufacturers.

Direct snowmobiling-related expenditures: $199.6 million,

Of total residential expenditures ($184.2 million)
$78.6 million spent in destination
$105.6 million spent at home and en route

Economic impact of expenditures:
Jobs: 2,718 jobs created
Gross State Product: $130.7 million

From resident expenditures:
Total employment: 2,464 jobs created
Gross State Product: $117.8 million

Non resident expenditures:
Total employment: 254 jobs created
Gross State Product: $13.0 million

Tax Revenue: $15.3 million

Retail activity:
Jobs: 1,142 jobs
Wages and salaries: $28.5 million;
Contribution to GSP: $61.3 million
Tax revenue: $6.1 million

Snowmobile manufacturing:
Jobs: 3,892 jobs
Wages and salaries: $143.5 million
Contribution to GSP: $309.0 million
Tax revenue: $30.3 million

Total state and local tax revenues:
Tourism: $15.3 million
Retailer sales: $6.1 million
Manufacturing: $30.3 million

EXECUTIVE SUMMARY

Snowmobiling has long been an important industry in Minnesota. The most recent attempt at measuring the industry's impact dates to 1996. In 1996, Minnesota snowmobile-related retail sales were estimated at $104 million while the economic impacts, as measured by nonresident tourism and manufacturing activity, contributed $300 million toward Minnesota's gross state product and 5,900 jobs. Given the clear importance of the snowmobiling industry to Minnesota, an updated examination of its economic contributions and participants was warranted.

This project assessed the economic impact of all snowmobiling activity in Minnesota and profiled registered snowmobilers. More specifically, the project focused on:

(1) economic impact of snowmobile trips and related tourism by Minnesota residents and nonresidents,
(2) economic impact of snowmobile manufacturing in the state,
(3) economic impact of consumer purchases of snowmobiles, accessories and apparel as measured by retail sales margins (gross sales less cost of goods sold),
(4) state government activity related to snowmobiling, and
(5) experiences, motivations and preferences of registered Minnesota snowmobilers.

METHODS

Two surveys and secondary data were used to ascertain economic activity and impact. In cooperation with Minnesota United Snowmobiling Association (MnUSA) and the Department of Natural Resources (DNR), a mail survey of Minnesotan's with registered snowmobiles was implemented, as was a mail survey to snowmobile retailers and manufacturers.

Questionnaires and samples: The consumer questionnaire consisted of eight pages focused on questions to determine snowmobiling experience, travel, expenditures, and perceptions of snowmobiling among a systematically selected sample of Minnesota snowmobiling households. Using a modified Dillman (2000) technique, a response rate of 43.8% was achieved (n=490). A non-response check indicated no significant differences between respondents and non-respondents on select variables of interest.

The manufacturing and retail questionnaire consisted of four pages focused on total sales, employment, wages and industry supply costs both in and out of Minnesota among a list supplied by MNUSA. Using a modified Dillman (2000) technique, a response rate of 21.4% (n= 98) was achieved. The response rate was challenged by survey timing and the list used for the survey.

Analysis: Data were collected, edited and analyzed using SPSS and REMI (Regional Economic Models, Inc – an economic simulation model of the Minnesota economy). In contrast to the 1996 study, this project assumed that all snowmobiling-related activity

would impact the state's economy irrespective of the source (resident or nonresident) was either new to the state or would occur in another state if not in Minnesota. In both cases, all activity represents economic impact contributions to Minnesota's gross state product. The estimates of snowmobiling activity were entered into REMI to determine the direct (the actual activity), indirect (industry suppliers) and induced (industry employee spending) impacts on the Minnesota economy.

To estimate tourism-related expenditures for Minnesota residents, the analysis used data from the consumer survey including number of trips, expenditures during these trips, annual repair and maintenance costs, and other non-travel related expenses. Nonresident tourism expenditures were estimated through an analysis of Travelscope data produced by the Travel Industry of America. All expenditure data were statistically extrapolated to the respective populations and entered into REMI.

The manufacturing and retailer questionnaire provided the production and sales data necessary to estimate the impacts of snowmobile activities. These data were augmented by company information available via public reports. After adjusting the retail sales data to represent only gross margins – the net contribution on the economy - the data were also statistically extrapolated and entered directly into REMI.

RESULTS

Expenditures

The direct expenditures of resident and nonresidents in Minnesota are the study's first area of economic impact analysis. Including nonresident expenditures, snowmobiling expenditures totaled $199.6 million, of which 92 percent comes from resident expenditures. Considering the middle estimation scenario of direct expenditure estimates, about 43% ($78.6 million) of the total residential expenditures ($184.2 million) are spent in the destination area within the state. The rest of the expenditures ($105.6 million) are spent at home and en route to the destination.

Economic Impact

When residents and nonresidents snowmobile throughout the state, significant direct (expenditures or economic activity), indirect (suppliers to industry) and induced (employee spending) impacts flow into the local areas visited. About 43% of resident expenditures are spent in the snowmobiling destination area.

In terms of total employment, resident and nonresident direct expenditures due to snowmobiling created 2,464 and 254 jobs respectively. The high percentage (close to 91%) of employment due to resident snowmobilers reflects the higher percentage (92%) of direct expenditures (i.e., economic activity) by residents relative to nonresidents.

Resident and nonresident spending resulted in Gross State Product (GSP) impacts of $117.8 million and $13.0 million, respectively, for a total of $130.7 million statewide. Similarly, the

much higher percentage of spending by residents reflects the relative magnitude of the resident and nonresident GSP contributions to the state economy.

Retailer Sales of Snowmobiles and Accessories

Retail sales of snowmobiles, parts and accessories also generated economic impact statewide. The estimated impacts of the retail activity in Minnesota are: 1,142 jobs; wages and salaries of $28.5 million; $61.3 million of value-added (contribution to GSP, or gross state product); and $6.1 million state and local tax revenues.

Snowmobiling Manufacturing

Using employment and sales data for snowmobile manufacturers in Minnesota, the economic impacts of snowmobile manufacturing in 2004 were estimated to be: 3,892 jobs, wages and salaries of $143.5 million; value-added of $309.0 million; and $30.3 million of state and local tax revenues.

Tax Related Activity

Total state and local tax revenues generated by the snowmobile industry, have three components: tourism sales, retailer sales and manufacturing. The estimated total state and local tax revenues were $51.8 million in 2004, broken down into: $15.3 million (tourism); $6.1 million (retailer sales); and $30.3 million (manufacturing).

State Government Activity Related to Snowmobiling

Two state government entities directly connect to Minnesota snowmobiling: the Department of Natural Resources and Explore Minnesota Tourism. There are approximately 20,000 miles of snowmobile trails in Minnesota. The vast majority of these miles are maintained by volunteers (18,000 miles) and, notably, the 2004 value of a volunteer hour is $17.55 (Independent Sector, 2005). The Department of Natural Resources generates revenue through registration fees and 1% of non-refunded gas tax, that is, the portion of tax paid on fuel purchased for snowmobiling. These funds go into the Snowmobile Trails and Enforcement Account, a portion of which is dispersed through the Grants-in-Aid program to partially reimburse some 300 local government sanctioned snowmobile clubs throughout the state for their out-of pocket costs of trail building and maintenance. The 2004 total resources available in the fund were $17,041,454. The amount in the Grants-in-Aid program was $5,285,280.

In addition, Explore Minnesota Tourism (EMT) provides a variety of programs to facilitate and promote snowmobiling. In 2003-04, EMT spent approximately $500,000 to promote winter tourism, including snowmobiling, in the upper Midwest and Canadian markets. For 2004-05, EMT's expenditures specifically related to snowmobiling will exceed $70,000.

Snowmobiler Profile

Demographics: Mirroring a national sample, the typical 2004 Minnesota snowmobiler was a white male in his mid-forties with some college or technical schooling. The typical rider is most often full-time employed with an income greater than $50,000 that supports a family with an average size of three.

Motivations for snowmobiling: The most important experience attribute among Minnesota snowmobilers was 'being with friends and family'. 'Seeing exhilarating scenery', 'getting away from it all', and 'feeling in control of the vehicle' tied as the second most important experience attributes. Four factors explained 59.8% of the variance regarding what is important to snowmobiling: skill/achievement, novel natural areas, familiarity, and exercise.

Typical snowmobiling experience: Snowmobilers participate in the activity about 18 times during the season, on average. Those who trailer their snowmobiles 100 miles or more for a day of snowmobiling, do so about seven times a season. Those who trailer their snowmobiles and stay at least one night away from home for purposes of snowmobiling also do so about seven times a season, staying an average of 3.6 days per trip.

Survey respondents reported more than half of their snowmobile experiences involve distances less than 80 miles, while most of the remainder range up to 160 miles. The average experience was 5.6 hours in duration.

Most respondents use two or more snowmobiles and groups typically consist of 4 or more adults. When children or teens participate, there are usually two or more in the group. Most often, groups include both family and friends, while about 25% of the time they include just friends, and another 17% just family.

Snowmobiling-related travel: Most often, snowmobiling takes place in the northern portion of the state. More than four of 10 respondents (44.0%) travel to the north central/west region and almost a third (31.3%) travel to the northeast region. When respondents anticipated snowmobiling in the 2004-2005 season, they estimated fewer trips, number of times snowmobiling, and lower trip expenditures than for the previous season.

Desired experience improvements and willingness to pay for improvements:
Snowmobilers cited a series of improvements that they would like to see in the Minnesota trail system. The most frequently cited improvements included trail signage and grooming.

More than half of respondents supported an increase in the state trail sticker to pay for the improvements. Further, respondents were willing to pay, on average, an additional $17.80 for trail improvements but the median value was less ($10.00).

DISCUSSION & IMPLICATIONS

Expenditures: Nonresidents and residents had more than twice the expenditures ($199.6 million) during the 2003 – 2004 season compared to $104.2 million in the 1996 snowmobile study.[1] Because resident expenditures accounted for about 92 percent of total expenditures ($184.2 million), the increase is partially explained by the increase in registered snowmobiles in Minnesota, from 233,443 in 1995 to 279,738 in 2003.

In fact, among nonresidents, estimated snowmobiling expenditures increased from just $12.8 (2004 dollars) in the 1996 study to $15.4 million in 2003. This increase occurred despite the number of nonresident snowmobilers falling from 76,000 to 59,000 between the two periods.

Economic impacts: Although the 1996 study did not estimate the economic impacts generated through resident spending, the doubling of expenditures suggest a similar economic impact increase. In contrast, despite increased nonresident expenditures, overall GSP contribution impacts declined from $19.8 million to $13 million suggesting productivity improvements in the industries affected and possible changes in expenditure patterns among nonresidents.

Manufacturers saw a marked decline in impacts due to lower manufacturing activity as reported by survey respondents and identified in public company reports. Retailer comparisons are not possible due to the different methodologies and definitions employed by the two studies.

It is important to note that any comparisons between the 1996 study and this study have limitations and should be done cautiously. In addition to the seasonal factors (e.g., tourism, retailer and manufacturing sales depend on winter conditions) that affect results, this study has a more inclusive economic impact definition that makes comparisons difficult, if not impossible, in some cases.

Consumer profile: The 2004 registered snowmobiler in Minnesota mirrors both national and state statistics in that they are a middle-aged non-Hispanic male with some college education. National data indicates that this 'boomer' also has specific desires for novelty (National Travel Monitor, 1998), family accommodations (Chon & Singh, 1995), as well as flexible opportunities: educational, cultural, or sport experiences (Cato & Knustler, 1988). Another potentially important consideration as this group matures is physical accessibility and participation rates (TIA, 2003).

Two of the four factors important to Minnesota snowmobilers were similar to May et al. findings (2001): achievement/stimulation and enjoy nature. Similarly, two of the four factors were comparable to McLaughlin and Pardice's (1980) findings where general nature experiences and physical exercise were important. Given that the only skill/achievement factor differed by self-reported skill level, programming and marketing should focus on the central importance of socialization and natural areas.

[1] The nonresident data was derived via analysis of Travelscope data produced by the Travel Industry of American (TIA) for calendar year 2003.

Attention to the physical exercise could be extremely beneficial to enhance participation and secure programming or planning dollars from state and federal governments. To enhance health benefits on public lands, baseline information on both realized health benefits and constraints to these benefits is needed. Additional research to determine both the perceived and real health benefits of snowmobiling is suggested.

While more than half of respondents suggested constraints related to the environment or their personal lives interfere with their snowmobiling experience, 7.4% indicated other riders as the source of interference. Although conflict has a negative connotation, it can be a positive as it indicates systemic inefficiencies and keeps the organization at a higher level of stimulation. Schneider (2004) found that "…individuals frequently cope without the need for management intervention. Still, these seemingly unmanaged responses rely heavily on well communicated established rules." Therefore, working to disseminate and educate about appropriate trail behavior seems in order.

Similar to research in New York (1998) and Cook County (2003), respondents indicated they were willing to pay for enhanced experiences in terms of trail grooming and signage. The average amount respondents in the survey were willing to pay to support this change was $17, but the median was $10. Considering a fee increase of $10 seems most prudent.

Future research:

Organizational and individual future research would be beneficial for MNUSA and those associated with providing snowmobiling experience opportunities. With regards to the organization, future research could clearly identify the perceived benefits of and constraints to club membership, as well as the performance of MNUSA on important factors to the members. For individuals, attention to the physical exercise could be extremely beneficial to enhance participation and secure programming or planning dollars from state and federal governments. Also, a limitation of this project is that we identified estimated snowmobiling behavior rather than actual behavior. Future projects could include a post-season check on actual behavior.