

An Economic and Social Assessment of Snowmobiling in Utah

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An Economic and Social Assessment of Snowmobiling in Utah

FINAL REPORT

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Summary

The popularity of snowmobiling as a winter recreation activity has increased dramatically throughout the United States. Much of this growth has been felt in Utah where the number of registered snowmobiles was approximately 32,000 in 1998. Snowmobiling may have a significant impact on the economy of Utah and on the managerial resources required to support snowmobiling activities. In 1999, Utah's Department of Natural Resources, Division of State Parks and Recreation, commissioned a study to address the economic benefits of snowmobiling on the Utah Economy. The study was conducted during May and June 2000 by the Institute of Outdoor Recreation and Tourism at Utah State University.

The objectives of the research were to estimate the economic benefits of registered snowmobile use in Utah, assess the level of satisfaction of snowmobilers in Utah, and examine some demographic characteristics of Utah's snowmobilers. A sample of 373 snowmobile owners was taken from the 1998 population of 13,164 registered owners.

Over 80 percent of the respondents were male, with an average annual household income between \$60,000 and \$79,000. The favorite areas for snowmobilers were Hardware Ranch, Monte Cristo, and Logan Canyon. Most respondents (91%) were satisfied or very satisfied with the quality of snowmobiling in Utah and took an average of 12.3 trips in the 1999-2000 season.

The total annual expenditures for snowmobiling in the 1999-2000 season was \$52.6 million; over 37 percent of this was spent along the Wasatch Front. Input-output analysis was used to determine the statewide impacts of snowmobile-related direct and indirect expenditures in Utah. Results from the I-O analysis show that the output impacts were \$33.6 million; the value-added impacts were \$20 million. A total of 527 jobs were created, producing \$12 million in income and an estimated \$5.5 million in governmental tax revenues. These figures are conservative, as they are based upon only registered Utah snowmobilers and their families and do not include snowmobile trips by out-of-state snowmobilers nor do they include the economic impact from snowmobile rentals.

Introduction

Rationale and Background

Throughout the past several decades, the popularity of snowmobiling as a winter recreation activity has increased dramatically throughout the United States. The International Snowmobiling Manufacturers Association (ISMA) reports that snowmobilers in the United States spend four billion dollars annually (Klim 1997). In 1999, a quarter of a million snowmobiles were sold at an average retail price of \$5,970. Total expenditures by snowmobilers exceed \$6 billion annually (Fujisaki 2001). Furthermore, snowmobile participation both nationwide and in the Rocky Mountain region has been projected to increase over the next 50 years (Bowker 1999).

Much of this growth in popularity has been felt in Utah where the number of registered snowmobiles was approximately 32,000 in 1998 (Utah State Tax Commission 1998). The popularity of snowmobiling may have a significant impact on Utah's economy, as snowmobiling expenditures make up nearly one percent of Utah's gross state product (\$59.6 billion, 1998). This will also have a significant impact on the managerial resources required to support snowmobiling activities. In 1999, Utah's

Department of Natural Resources, Division of State Parks and Recreation commissioned a study that would begin to address the economic benefits of snowmobiling on the Utah economy. This study was conducted by Utah State University, Institute of Outdoor Recreation and Tourism.

Objectives

This study completes an initial step in quantifying the economic impacts of snowmobiling to the state of Utah.

The specific objectives of this research were to

1. Estimate the economic benefits of registered snowmobile use in Utah
2. Assess the level of satisfaction of snowmobilers in Utah
3. Examine the demographic characteristics of Utah's snowmobilers

While this research does address the economic benefits of snowmobiling activities, it does not address the costs of snowmobiling to Utah, including management and maintenance efforts. Furthermore, this research does not address alternative recreational activities for Utah's snowmobilers, and as such, no extrapolations should be made regarding the impact to Utah's economy without the presence of snowmobiling.

Methods

Study Site and Population

As all of the objectives address snowmobilers throughout Utah, and because snowmobiling occurs in many parts of the state, all of Utah was considered the study site.

Differentiating the study population from the entire population of Utah posed some difficulty, as the only means of determining snowmobiling participants in Utah was through snowmobile registrations. Utah requires the registration of snowmobiles owned in Utah, so a mailing list of approximately 25,000 registered snowmobiles and their owners from 1998 was obtained from the Utah Tax Commission. Because this data lists each registered snowmobile along with its owner, many records were eliminated due to duplication of the owner (i.e. if John Doe registered two snowmobiles, his name would appear twice in the database). The final list of snowmobile owners consisted of 13,163 names. As there were only nine non-resident registrants and because their snowmobiling expenditures and behaviors are likely considerably different from resident users, non-residents were not stratified in the sample selection. Because there was no means to account for snowmobilers who rent or borrow their machines, these people could not be included in the population.

Sample Selection and Survey Design

The data were collected using a telephone survey (see Appendix B). The survey targeted the population of registered snowmobile households for the 1998-1999 snowmobiling season. From the 13,163 registered owners, a sample size of 373 was needed to obtain an error rate under $\pm 5\%$. The US West website was used to find telephone numbers for the sample. A minimum of six attempts were made to contact each sample subject. This process excluded three classes of potential respondents: (1) new Utah

residents, (2) people with unlisted telephone numbers, and (3) those without telephones.

These factors may cause a small amount of bias in the study population. An additional source of bias is that a significant number of registered snowmobiles may be owned by seasonal residents. As this survey was conducted from April-June, these residents may be under represented.

The primary objective of this project was to gather spending and use data on Utah's registered snowmobilers. As such, the research questionnaire gathered the following information:

1. Total and categorized household expenditures associated with the most recent snowmobiling trip
2. Total and categorized household annual expenditures associated with annual snowmobiling activity
3. Favorite and most recent snowmobiling trip locations
4. Number of registered snowmobiles and number of days that each snowmobile was used during the 1999-2000 snowmobiling season
5. Opinions on current issues such as parking availability and trail grooming, preferred snowmobile riding styles and perceptions of conflicts with other recreationists
6. Demographic data

The sample unit used for the economic analysis was the household. The number of households that registered snowmobiles was estimated by the number of total registrations in the state divided by the average number of snowmobiles owned by a household that owns registered snowmobiles. Economic impact was estimated by multiplying the number of households that registered snowmobiles by average household annual expenditures, including all trip expenditures. These averages were used to estimate changes in demand for Input-Output analysis.

Input-Output (I-O) analysis was used to determine the statewide economic impacts of snowmobile-related expenditures in Utah. Analysis was also completed within Utah by planning region. Because it provides a detailed description of a regional economy, the I-O model is the most widely used economic model for regional economic analysis. IMPLAN™ was used as the analytical tool for the I-O economic model. IMPLAN™ is used for either analytical or predictive estimates for economic impacts and has been previously utilized to conduct economic impact analysis of recreation (Stynes 1998).

Results

Table 1 shows that of the total population of Utah registered snowmobile owners (13,163), a selected sample of 1,441 was chosen to minimize the risk of selecting names that were ineligible (invalid phone numbers, disconnected phone lines, no longer own snowmobiles, etc.), while still obtaining the desired response rate (373). Of the selected sample, 52 percent were found to be ineligible. Valid phone numbers were obtained for 685 owners and 373 (54.5%) responded to the survey.

Table 1. Utah Registered Snowmobile Owner's Population and Sample Distribution¹

Group		Number	Percentage of Group
Population of Utah registered snowmobile owners		13,163	100% of population
Selected sample		1,441	10.9% of population
Ineligible		756	52.5% of Selected sample
Valid phone numbers		685	47.5% of Selected Sample
Respondents		373	54.5% of valid phone numbers
Non-respondents		312	45.5% of valid phone numbers

Characteristics and Preferences of Utah Snowmobilers

Socio-Demographics

Table 2 illustrates some demographic characteristics of survey respondents. The average Utah snowmobile owner is a 43-year-old male (80 percent of respondents were male) living in a household of 4 people with a median annual household income of between \$60,000 and \$79,000. Nearly 70 percent of the respondents had at least some college education, with over 30 percent having completed a bachelor's degree or higher.

Table 2. Demographics

¹ These records were taken from the list of registered snowmobilers for 1998, as supplied by the Utah Tax Commission and the Division of Motor Vehicles. Non-respondents include rejections (114), answering machines (77), unavailable respondents (73), no answer (47), and other (1).

Characteristics		Percent of respondents
Age (Mean=43.41)	18 to 29	12.2
	30 to 39	29.6
	40 to 49	33.4
	50 to 59	11.9
	60 to 69	9.0
	70 and older (84)	3.8
Number of people in household (Mean=3.97)	1	4.1
	2	20.7
	3	17.9
	4	21.7
	5	16.3
	6	10.9
	7 or over	8.4
Education	Eight years or less	0.0
	Some high school	2.5
	High school graduate, or equivalent	29.9
	Some college or technical school	30.7
	Associate degree	6.6
	Bachelors degree	20.8
	Graduate or professional degree	9.6

Snowmobiling Activities

Table 3 illustrates favorite snowmobiling areas within the state of Utah. Eighty-five percent of respondents mentioned five specific locations: thirty five percent of

respondents listed the Hardware Ranch/Monte Cristo/Logan Canyon areas as their preferred venue. Strawberry Valley, Wasatch Mountain, Mirror Lake/Current Creek, and Scofield/Skyline drive were favored by 10, 16, 12 and 11 percent of respondents, respectively.

Table 3. Favorite Snowmobile Areas

Areas	Percent of respondents
Hardware Ranch, Monte Cristo, and Logan Canyon	35.1
Strawberry Valley	16.1
Wasatch Mountain	12.1
Mirror Lake and Current Creek	11.3
Scofield, and Skyline Drive	10.2
Uintah Basin	4.6
Ephraim, Manti, Joe`s Valley, and Ferron	4.3
Fish Lake	1.6
Cedar Mountain and East Fork	1.6
Other areas ¹	3.2

Snowmobilers prefer a variety of riding styles (as shown in Table 4a), however, 40 percent listed off-trail riding as their preferred style. Nearly 33 percent listed a combination of two or more riding styles which included trail riding, off-trail riding, side hilling (riding along the slope of a mountain) high marking (riding up a slope as far as possible before turning around), and hill climbing (riding up a slope and going over the top of the hill). Of this 33 percent, 25 percent favored a combination of all riding styles, whereas 14 percent preferred the off-trail riding and hill climbing combination. In general, the most popular riding style is off-trail riding (65.4 percent) followed by trail riding (34.3 percent).

Table 4a. Favorite Snowmobile Riding Style

¹This includes Timber Lake (2), Anywhere at all in northern Utah (1), Around Garland (1), Duck Creek in King County (1), His dry farm in Box Elder County (1), Manti-La Sal National Forest (1), Tooele (1), Wasatch County (1), Washington County (1), and Willand Park in Box Elder County (1).

Riding Styles	Percent of respondents
Trail Riding	16.9
Off-trail Riding	40.2
Side Hilling/High Marking	2.9
Hill Climbing	5.1
Combination	32.7
Other	2.1

Snowmobilers were also asked what riding styles they participated in during the 1999-2000 season, shown in Table 4b. It is apparent that snowmobilers participate in a variety of riding styles, as during the 1999-2000 season 69.4 percent participated in trail riding and 72.6 percent participated in off-trail riding (respondents could choose multiple categories). Additionally, 29.4 percent participated in all four riding styles during the 1999-2000 season.

Table 4b. Snowmobile Activities Participated in During the 1999-2000 Season

Activities	Percent of respondents
Off-trail Riding	72.6
Trail Riding	69.4
Side Hilling/High Marking	40.2
Hill Climbing	39.9
Other	2.1

Group Types

The majority of Utah snowmobilers stated that those who accompany them on a typical snowmobile trip are either friends or immediate family, with 68.4 and 61.7 percent of all responses (respondents could select multiple categories). Table 4c shows the types of groups accompanying respondents on snowmobile trips.

Table 4c. Types of Groups Accompanying Respondents on a Typical Snowmobile Trip

Types of Groups	Percent of respondents
With friends	68.4
With members of immediate family	61.7
With other relatives	11.8

Types of Groups	Percent of respondents
With snowmobile club members	2.1
With others	1.9
Alone	1.3

Snowmobiling is a family activity, as demonstrated by the mean number of snowmobiles per household of 2.6 and the mean number of household members who snowmobiled in the 1999-2000 season of 3.2. Table 5 shows that 41.3 percent of all respondents own two snowmobiles, another 40 percent own three or more. Table 6 shows that in nearly 80 percent of households, two or more members snowmobiled in 1999-2000.

Table 5. Number of Registered Snowmobiles in a Household During 1999-2000 Season

Number of Registered Snowmobiles (Mean=2.6)	Percent of respondents
0	0.3
1	18.5
2	41.3
3	15.3
4	17.7
More than 5	6.9

Table 6. Number of Household Members Who Went on Snowmobile Trips in Utah During 1999-2000 Season

Number of Household Members (Mean=3.2)	Percent of respondents
0	4.8
1	15.5
2	25.5
3	12.3
4	17.7
5	9.1
6	9.4
7	2.7

Number of Household Members (<i>Mean=3.2</i>)	Percent of respondents
8	1.9
9	0.3
10	0.8

Preferences and Opinions

An important component of this survey was to address snowmobiler's level of satisfaction with their recreational opportunities in Utah. Table 7 illustrates snowmobiler's responses to questions regarding the variety of trails, number of trails, parking availability, law enforcement, etc. Overall, snowmobilers were most satisfied with the variety of trails in the state, where 91 percent of respondents stated they were satisfied or very satisfied. Respondents were least satisfied with parking availability at trailheads, garbage facilities, and trail grooming. However, even for these categories, over 50 percent of respondents stated they were satisfied or very satisfied. Over 11 percent of respondents did state that they were very dissatisfied with trail grooming in Utah. As the study was conducted in May, some of this dissatisfaction may have arisen because the state of Utah stops trail grooming activities in late March or early April.

Table 7. Level of Satisfaction with Snowmobile in Utah¹

Characteristic	Very dissatisfied	Dissatisfied	Satisfied	Very satisfied	Mean¹
Variety of trails in	0.0%	8.8%	74.3%	17.0%	3.08
Plowing at	2.6%	11.9%	74.4%	11.1%	2.94
Number of trails	1.2%	16.1%	70.1%	12.6%	2.94
Law enforcement on	0.9%	13.4%	76.2%	9.5%	2.94
Availability of maps	2.3%	29.5%	58.4%	9.7%	2.76
Restrooms at	2.8%	25.2%	66.4%	5.6%	2.74
Trailhead	2.3%	32.9%	58.1%	6.7%	2.69
Trailhead garbage	4.8%	30.1%	61.3%	3.8%	2.64
Trail grooming in	11.5%	30.7%	49.0%	8.9%	2.60
Parking space	9.5%	31.4%	51.5%	7.6%	2.57

Those respondents who stated that they were dissatisfied or very dissatisfied with a given service were asked to explain the reason for their dissatisfaction. For example, of those who were dissatisfied with parking space availability at trailheads, 82 percent said this was because there is not enough space, whereas only 5 percent stated their

¹The mean for table 7 is based upon a scale where 1=Very dissatisfied, 2=Dissatisfied, 3=Satisfied, 4=Very Satisfied

dissatisfaction was due to poor maintenance. For respondents who were dissatisfied with trail grooming, 51 percent stated that the reason was not enough grooming, while 47 percent said that the existing grooming could be better. A detailed description addressing reasons for dissatisfaction with all services is available in Appendix C.

Conflicts with Other Recreationists

As more and more recreationists begin using public lands for a variety of activities, it is expected that conflicts between users may arise. This study asked respondents whether or not they experienced conflicts with other recreationists. Table 8 shows that over 87 percent of respondents had not experienced any conflicts while snowmobiling. However, of the 13 percent who did experience conflicts, 54.3 percent of these conflicts were attributed to skiers (6.7 percent of all respondents) and 32.6 percent were attributed to other snowmobilers (4 percent of all respondents) .

Table 8. Conflict with Other Snowmobilers or Recreationists

Characteristic		Percent of respondents
Had conflicts with other snowmobilers or any other types of recreationists	Yes	12.7
	No	87.3
If yes, who?		
X-country skiers		43.5
Snowmobilers		32.6
Skiers		8.7
Drinkers		4.3
Back-country skiers		2.2
Four-wheelers		2.2
Tour guides		2.2
Land owners		2.2
Rental machines		2.2

Know Before You Go

The state of Utah wanted to know snowmobiler’s level of familiarity with the *Know Before You Go* program, a required education course for people without a driver’s license, typically those ages 8-16. Table 9 shows that 41.6 percent of respondents were aware of this program, and of those, 76 percent were satisfied or very satisfied with the

program. Another 19 percent had heard of the program but had no personal experience with it.

Table 9. Know Before You Go¹

Characteristic		Percent of respondents
Familiar with “Know Before You Go” program	Yes	41.6
	No	58.4
If yes, level of satisfaction <i>(Mean=3.09)¹</i>	Very satisfied	13.1
	Satisfied	62.8
	Dissatisfied	4.1
	Very dissatisfied	0.7
	Heard of but no personal experience	19.3

Snowmobiler Comments

At the end of the survey, respondents were given the opportunity to comment about snowmobiling in Utah. Over half of the survey respondents made comments, multiple topics were accepted. Nearly forty percent (39.5%) of the respondents addressed concerns over closing access to snowmobiling areas. A portion of this fear could be attributed to controversial closures in Yellowstone, as 11 respondents named Yellowstone in their comments even though the interviewers specifically asked for comments about snowmobiling in Utah. These comments may also be a reaction to pressures by preservation groups and a dissatisfaction or disagreement with Forest Service Management (see Appendix C for a list of other comments). Congestion may also be becoming an issue, as many of the comments were requests for more parking space, more areas to snowmobile, more grooming, and improved facilities. Twelve respondents stated that snowmobiling areas were “getting crowded.” A detailed list of all comments can be found in Appendix C .

Snowmobile Trips in the 1999-2000 Season

Nearly 93 percent of respondents took a snowmobiling trip during the 1999-2000 season. The typical household took an average of 5 snowmobile trips during the season. Table 10 shows that 32.1 percent of households took between one and five snowmobiling trips; 22.2 percent took between six and ten trips.

¹The mean for table 7 is based upon a scale where 1=Very dissatisfied, 2=Dissatisfied, 3=Satisfied, 4=Very Satisfied

Table 10. Number of Household Snowmobile Trips During 1999-2000 Season

Number of Household Snowmobile Trip (Mean=12.3)	Percent of respondents
None	4.2
1 to 5	32.1
6 to 10	22.2
11 to 15	15.0
16 to 20	9.7
More than 21	16.9

Table 11 shows that 51 percent of respondents stated that the number of trips they took during the 1999-2000 season was typical of the number of trips they take each year. Those who stated that the number of trips they took during the 1999-2000 was not typical for the year (49 percent) were asked to answer how many trips per year would be typical. Table 11 shows the mean answer was 19 trips. The category with the highest percentage of respondents (25 percent) was between 11 and 15 trips.

Table 11. Snowmobile Trip During 1999-2000 Season

Characteristic		Percent of respondents
If went to snowmobile trip, is this a typical number of snowmobile trips in a season?	Yes	51.0
	No	49.0
If no, typical number of snowmobile trip. (Mean=19.0)	1 to 5	7.8
	6 to 10	16.9
	11 to 15	25.3
	16 to 20	20.5
	21 to 25	10.8
	25 to 30	6.6
	More than 30	12.0

Most Recent Trip

Data were collected on the characteristics and expenditures of a survey respondent's most recent trip. This information is later applied in the economic analysis, as the average expenditure per trip was multiplied by the average number of trips to determine the average per trip expenditures for the 1999-2000 season.

Characteristics

Table 12 outlines some characteristics of a respondent's most recent trip. These characteristics include data designed to provide a snapshot of a snowmobiler's most recent trip. Data collected include the month, location, length, miles snowmobiled, gallons of gasoline used, and miles traveled to the trailhead for this trip. Thirty-four percent of respondents stated their most recent trip was in March. Over one third of respondents (33.5 percent) said that their most recent trip was to the Hardware Ranch/Monte Cristo/Logan Canyon area. Mirror Lake and Current Creek were second, with 14.5 percent of the respondents; Strawberry Valley and Wasatch Mountain were third and fourth with 13.6 and 13 percent of responses, respectively. These most recent trip locations closely mirror the list of favorite sites shown in Table 3. The mean number of days for this trip was 1.3 days, although over 82 percent of respondents stated that this trip was a one-day outing.

The average number of miles snowmobiled was 57, using an average of 13.7 gallons of gas, which translates to 4.2 miles per gallon on average. Median gasoline usage was 8.5 gallons. Since most snow machines get over 6 mpg, there is some question regarding the results of the average miles per gallon calculation. The low miles per gallon average may be a result of respondents (1) not remembering exactly how much gasoline they used or (2) recalling how much gas they put in their machines—not how much they used on a particular trip.

The average number of miles traveled to get to the trailhead was 50.1. A slight majority, 54.1 percent, went with family members on this trip. Of these, an average of 2.5 members of the household accompanied them.

Table 12. The Most Recent Snowmobile Trip Characteristic

Characteristic		Percent of respondents
Month of the most recent snowmobiling trip	November	0.6
	December	2.4
	January	4.2
	February	21.3
	March	34.4
	April	27.2
	May	9.6

Characteristic		Percent of respondents
	June	0.3
Snowmobile area	Hardware Ranch, Monte Cristo, and Logan Canyon	33.5
	Mirror Lake and Current Creek	14.5
	Strawberry Valley	13.6
	Wasatch Mountain	13.0
	Scofield, and Skyline Drive	8.7
	Uintah Basin	5.8
	Ephraim, Manti, Joe's Valley, and Ferron	4.6
	Fish Lake	2.3
	Cedar Mountain and East Fork	1.4
	Other areas ¹	2.6
Number of days on this trip <i>(Mean=1.3)</i>	1	82.1
	2	11.8
	3	4.3
	More than 3	1.7
Miles snowmobiled <i>(Mean=57.0)</i>	None	0.3
	1 to 20	13.3
	21 to 40	25.1
	41 to 60	35.7
	61 to 80	12.4
	81 to 100	5.6
	More than 100	7.7
Gasoline used in snowmobiles (gallons) <i>(Mean=13.7)</i>	None	0.3
	1 to 5	25.6
	6 to 10	43.5

¹This includes Bench Creek (1), Grantsville (1), Hickman Canyon (1), Southern Utah (1), Swan Park, Timberland (1), and Twelve Mile Canyon (1).

Characteristic		Percent of respondents
	10 to 15	15.1
	16 to 20	0.4
	More than 20	11.6
Miles traveled to get to the trail head <i>(Mean=50.1)</i>	None	1.5
	1 to 20	21.7
	21 to 40	26.8
	41 to 60	25.0
	62 to 80	11.4
	81 to 100	6.9
	More than 100	6.6

Expenditures

Table 13 shows expenditures for the respondents' most recent snowmobile trips. These expenditures include gasoline and oil for snowmobiles and tow vehicles, lodging, restaurants, grocery and convenience stores, parking fees, snowmobile rentals and tour packages, and other recreation activities. These figures are based upon 330 respondents who took a snowmobile trip during the 1999-2000 season and completed the trip expenditure question.

Table 13. Average Per Trip Expenditures

Expenditure Categories	Mean dollars
Gas and oil for snowmobiles	31.03
Gas and oil for tow vehicles	22.40
Lodging	6.39
Eating and drinking establishment	8.50
Food from grocery or convenience stores	13.28
Parking area fees	1.07
Other recreation activities	0.79
Snowmobile rentals, tour packages, or guide services	0.75

Expenditure Categories	Mean dollars
Repairs or maintenance on snowmobiles	36.86
Retail items	5.67
Other	0.13
Total	126.87

Gasoline and Oil

Nearly all respondents (98.5 percent) spent at least some money on gasoline and oil for snowmachines, the mean gas/oil expenditure was \$31.03. Fifty-six percent of respondents spend between \$1-\$20. Over 94 percent of respondents spend some amount on gas and oil for their tow vehicle (e.g. pickup truck) for this trip. The mean expense was \$22.44.

Food and Lodging

Consistent with the fact that 82 percent of respondents reported that their most recent trip was not overnight, 97.3 percent of respondents did not spend any money on lodging on their most recent trip. The remainder of respondents spent an average of \$241, resulting in a mean dollar amount for all respondents of \$6.39.

Snowmobilers tend to spend more money at grocery stores or convenience stores than they do at eating and drinking establishments. Over 67 percent of respondents spent no money at a restaurant, compared to 34 percent of respondents who didn't spend money at a grocery store. The mean dollar amount spent at restaurants was \$8.50 compared to \$13.28 at grocery stores.

Associated Costs

The majority of respondents (79 percent) did not pay parking fees during their last trip. Of the 21 percent who paid a parking fee, the majority (85 percent) spent between \$1 and \$5. The mean parking fee for all respondents was \$1.07.

Over 97 percent of respondents did not pay for other recreational activities while on this outing. However, because the mean across all respondents is \$.79, the remaining 2.4 percent spent an average of \$33 on other recreational activities.

The vast majority of snowmobilers (99.1 percent) generally did not spend money on snowmachine rentals, tour packages, or guide services. The remaining .9 percent (3 people), however, spent an average of \$84.75 each for these services.

Repairs and maintenance of snowmachines, although they seem to happen fairly infrequently, can be quite costly. The mean dollar amount spent on repairs or maintenance of snowmobiles for the most recent trip was \$36.86, although 85 percent of the respondents didn't spend anything. Of the 15 percent of respondents who did spend money on repairs and maintenance, the mean expenditure was \$244.70.

Most snowmobilers (96.2 percent) didn't spend any money on retail items during their last trip. The remaining 13 percent spent an average of \$147, resulting in a sample-wide average of \$5.67.

Annual Snowmobile-Related Expenditures

Annual snowmobile-related expenditures are those expenses that tend to be paid on an annual basis and are not generally trip-dependant. These expenses include snowmobile and trailer purchases and repairs, insurance, clothing, club dues, registration and licenses, storage, rentals, and miscellaneous retail items. Table 14 shows snowmobiling-related annual expenditures.

Table 14. Average Annual Expenditures

Expenditure Categories	Mean dollars
Snowmobiles	1,623.00
Trailers used for transporting snowmobiles	316.53
Snowmobile repairs, parts, or accessories	542.27
Insurance for snowmobiles	125.70
Snowmobile clothing	115.98
Snowmobile club dues and other club expenses	12.31
Snowmobile registration, license taxes	168.92
Snowmobile storage	22.63
Other	4.48
Total	2,931.82

Snowmobiles

The mean dollar amount spent in the 1999-2000 season on snowmobiles was \$1,623. While 75.3 percent of the respondents did not purchase a snowmachine during this season, the remaining 24.7 percent spent an average of \$6,555. Nearly 13 percent of these spent between \$5,001 and \$10,000. Just over three percent spent more than \$10,000.

Trailers, Snowmobile Accessories, and Storage

The mean dollar amount spent on trailers for transporting snowmobiles was \$316.53. Repairs, parts, and accessories cost an annual average of \$542.27, with nearly 74 percent spending between zero and \$500. Nearly all respondents (93.8 percent) did not spend money on snowmobile storage. The mean cost for storage for the sample was \$22.63.

Insurance, Registration and Taxes, and Club Dues

The average amount spent on insurance was \$125.70, however 52 percent of snowmobilers did not spend any money on insurance. Over 95 percent of respondents spent at least one dollar on registration and taxes, with the mean amount being \$168.92. The five percent who did not spend any money on registration and taxes were not asked

why they didn't pay these fees. However, since the population was taken from the list of registered owners for 1998, it is possible that someone else paid the registration fee, or that they did not register their snowmobiles for the 1999-2000 season.

Respondents did not spend much money on club dues, with 88.9 percent spending nothing. The remaining 11 percent spent an average of \$83, resulting in a sample mean of \$12.31.

Total Annual Expenditures

The average total annual household expenditure for snowmobiling was \$2,931.82. While 1.2 percent of respondents spent nothing on snowmobiling, 38.3 percent spent between \$1 and \$500. A significant percentage of households, 16.2 percent, spent between \$501 and \$1000.

Impact of Snowmobiling on Utah's Economy

In this section, we report the economic significance of snowmobiling in Utah on a statewide basis. The statewide analysis includes all snowmobiler expenditures in Utah, including both trip and annual expenses for Utah households. These expenditures comprise the direct impact of snowmobiling and are then subjected to input-output analysis to determine the total economic impact of snowmobiling on Utah's economy.

Expenditures

The total snowmobile expenditure in Utah for the 1999-2000 season was \$52.6 million. This number is the sum of total trip expenditures from Table 15 (\$19.7 million) plus total annual expenditures from Table 16 (\$36.9 million) for all snowmobiling households in the state. Note that where the per trip and annual expenditure categories overlap (e.g., repairs and lodging), expenses were deducted from the per trip calculations before the two kinds of expenditures were summed. It should not be assumed, however, that all of the \$52.6 million has an impact on Utah's economy. In order to assess the state impact of these expenditures, the amount of these expenditures retained in the state must be determined. That is, only a percentage of each dollar spent in the state accrues to local establishments and workers. Payments for goods imported to Utah and returns on investments to non-local owners (for example, some motels) are not local impacts.

Economic Impacts

The impact that an activity has on a state or region is usually different than the total amount of money spent on the activity. A dollar spent on snowmobiling flows through the economy and can affect employment and incomes both inside and outside the area it is spent. Measuring the impact snowmobiling has on the economy of Utah, rather than simply adding the dollars spent in Utah, leads to a more meaningful result for both managers and policy-makers.

The input-output model, IMPLAN™, was used to assess the actual economic impact accrued to Utah from the total snowmobile expenditures. Total expenditure calculations were aggregated into sectors consistent with the IMPLAN™ model. The expenditure types were verified using the 1987 Standard Industrial Classification (SIC) codes. Note, for example, that sales of sporting machines and sales of gas and oil for those machines are in the same SIC category (Automobile Dealers and Service Stations). Trip and annual expenditures as found in Tables 15 and 16 were used in the analysis. Other sectors which occur in both trip and annual expenditures are lodging, rentals, and

payments to state and local government. These expenditures were clearly identified as different (non-inclusive) in the survey responses. A detailed explanation of the IMPLAN™ analysis can be found in Appendix A.

Table 15. Trip Expenditures by Category and Sector

Activity	IMPLAN Sector	Total Expenditure \$
Food	450 – Food Stores	2,061,943
Gas and Oil	451 – Auto Dealers and Service Stations	8,295,905
Eating	454 – Eating and drinking	1,319,768
Miscellaneous Retail	455 – Misc. Retail	880,363
Lodging	463 – Hotels and lodging places	992,155
Baby Sitting	468 - Misc. Personal Services	20,184
Repairs	482 – Misc. repair shops	5,723,134
Rentals/Guides/Other	488 – Amusement and recreation	239,111
Parking fees	523 – State and local government	166,135
TOTAL TRIP		19,698,698

Table 16. Annual Expenditures by category and sector

Activity	IMPLAN Sector	Total Expenditure \$
Storage	435- Motor freight transport and	297,879
Tools	448 - Building materials and equipment	1,580
Snowmobile and Trailer Purchase	451 – Automotive dealers and service stations	25,535,960
Clothing	452 – Apparel and Accessory Stores	1,526,645
Miscellaneous Retail	455 - Misc. Retail	2,106
Insurance	459 – Insurance carriers	1,654,589
Hotels	463 - Hotels and lodging places	30,012
Repairs (excluding repairs on trips)	482 – Miscellaneous repair shops	1,414,766
Rentals	488 - Amusement and recreation services	53,026

Activity	IMPLAN Sector	Total Expenditure \$
Club dues	489 – Membership sports and recreation	162,037
Registration and	523 – State and local government	2,223,494
TOTAL ANNUAL		32,902,094

The IMPLAN™ model provides standard (for Utah) margins which convert consumer prices to producer prices to be consistent with the model structure. Producer price is the net price that the local supplier receives (exclusive of payments for imported goods which he has provided). This kind of measure is a local equivalent to national gross domestic product (or GDP), which is total sales less total imports. Moreover, local purchase coefficients are used based upon estimates (given in the IMPLAN™ model) of how much of the expenditures are made in the local economy and how much of the expenditure is not. For example, clothing might be purchased at local stores or ordered through an out-of-state source, such as a catalogue. Thus, the direct (local) effects will, in general, not be equal to the expenditures calculated from the surveys, and may be substantially less. For example, the local direct effect on gross domestic output for the purchase of snowmobiles and trailers is about \$5,000,000, whereas the total expenditure is \$25,000,000. This reflects the fact that the local dealer imports most of the value of the equipment he sells, and the local economy benefits only by about 20% of the total sales values. The direct effects on value added and labor income are much less than total expenditures, since these categories are only a part of gross domestic product.

The direct effects for the various categories of production or income for each of the expenditures is listed in Table 17 below. A sector-by-sector direct effect can be found in the impact tables included in Appendix A. The direct impact on gross output for the state is about 42 percent of the total expenditures, indicating that over half of the value of total sales (output) is in imported goods and services.

Table 17. Direct (local producer prices) Impacts of Resident Snowmobile Expenditures

Source/Impact	State Domestic Product \$	Value Added \$	Labor Income \$	Employment \$
Trip Expenditures	10,410,677	4,822,736	3,330,862	171
Annual Expenditures	11,603,934	7,596,348	5,176,100	187
Total	22,014,611	12,419,084	8,506,962	358

Table 18 indicates the estimated total impact of reported expenditures by snowmobilers for the 1999-2000 snowmobiling season in the State of Utah. Recall that total impact is composed of direct impacts (as in Table 17), indirect impact (which results from the increased economic activity in other sectors caused by the direct expenditures), and induced impact (which results from the consumption expenditures related to increasing income to households). Caution should be used in the interpretation of these values. Since only Utah residents were included in the survey, the results indicate the economic impact of the estimated expenditures. These results cannot be used to analyze

the effect of changes in the availability of snowmobiling sites or other policy measures which might affect visitation because residents are likely to choose to simply recreate in other areas in Utah, or to recreate in some other manner (such as skiing) in Utah. Thus, assessing the impact of such changes would require knowing how resident snowmobilers would alter their recreation and spending behavior as a result of the changes.

Table 18. Total Impacts of Resident Snowmobile Expenditures

Source/ Impact	State Domestic Product \$	Value Added \$	Labor Income \$	Employment (# of jobs)	State and Local Tax Revenue \$ (no transfers)
Trip Expenditures	16,012,270	8,099,806	5,300,358	251	2,293,553
Annual Expenditures	17,020,544	10,902,113	7,146,002	276	3,231,534
Total	33,032,814	19,001,919	12,446,360	527	5,525,086

Appendix A shows the direct, indirect and induced impacts of the expenditures that snowmobilers reported in the survey and demonstrates how these impacts were used to calculate the state multipliers used in the analysis. Note that like most recreation activities, these multipliers are relatively low (in the range of 1.48 to 1.55).

Economic Expenditures by Planning Region

The economic impact of snowmobiling is not evenly distributed throughout the state. The statewide analysis was broken into the following seven planning regions (as delineated by the Utah Division of Parks and Recreation) which include all 29 counties.

- Bear River region: Box Elder, Cache, and Rich
- Central Utah region: Juab, Millard, San Pete, Seiver, Piute, and Wayne
- Mountain Lands region: Utah, Wasatch, and Summit
- Southeast region: San Juan, Grand, Carbon, and Emery
- Southwest region: Beaver, Iron, Washington, Garfield, and Kane
- Uintah Basin region: Duchesne, Dagget, and Uintah
- Wasatch Front region: Salt Lake, Weber, Morgan, Davis, and Tooele

The totals for trip and annual expenditures shown in Tables 19 and 20 were largest along the Wasatch Front, with 47.5 percent and 37.3 percent of the expenditures, respectively. Mountain Lands was second in trip expenditure, with 25.3 percent and Bear River was second in annual expenditure at 27.6 percent. The regions that showed the smallest expenditure were Uintah and Southeast. These results aren't surprising, as the Wasatch Front and Mountain Lands regions contain the majority of the state's population and many snowmobiling trips originate in this area. In addition, popular snowmobiling

areas within these regions include Wasatch Mountain, Current Creek, and Fish Lake. While the Bear River region does not constitute a great deal of the state's population, it does contain three popular snowmobiling areas Hardware Ranch, Monte Cristo, and Logan Canyon. These locales were listed as the favorite snowmobile area and the location of the most recent trip for 35 and 33 percent of the respondents, respectively. A detailed regional impact analysis can be found in Fujisaki 2001.

Table 19. Total Trip Expenditures by Planning Region

Planning Region	Expenditure \$	Percent of respondents
Wasatch Front	9,348,445.68	47.5
Mountain Lands	5,172,851.45	26.3
Bear River	2,773,694.04	14.1
Southwest	1,034,007.59	5.3
Central Utah	976,043.27	5.0
Uintah Basin	242,394.94	1.2
Southeast	131,077.14	0.7
Total	19,678,514.12	-

Table 20. Total Annual Expenditures by Planning Region

Planning Region	Expenditures \$	Percent of respondents
Wasatch Front	10,790,883.77	37.3
Mountain Lands	7,979,865.92	27.6
Bear River	4,521,360.86	15.6
Southwest	2,844,680.21	9.8
Central Utah	2,150,217.52	7.4
Uintah Basin	425,093.34	1.5
Southeast	225,180.88	0.8
Total	28,937,282.50	-

Discussion and Conclusion

The economic impact of recreational snowmobiling in Utah is substantial. Total expenditures by Utah residents was nearly \$53M on snowmobiling related activities during the 1999-2000 season, including \$22M on snowmobile trips, and \$33M in annual expenses related to snowmobiling. These expenditures represent approximately \$34M of the state's domestic product, 527 jobs, \$13M in labor income, and nearly \$3M in state and local tax revenue. Furthermore, these figures are very conservative. They are based only on registered Utah snowmobilers and their families, and do not represent the economic value resulting from snowmobile rentals, trips by out-of-state snowmobilers, voluntary activities, job- or service-related activities, and other factors that could not be included in the study. Additionally, the snow pack during the 1999-2000 season was low and occurred late in the season. As a result, nearly half of the respondents said that they took fewer trips in 1999-2000 than in a "typical year."

Respondents also show a high level of commitment to the sport: over 81 percent of the respondents have two or more snowmobiles in their household, an average of 3.2 members in each household snowmobile, and they took an average of 12 snowmobiling trips during the 1999-2000 season. The average snowmobile trip was over 57 miles long, and they traveled 50 miles from their home to their snowmobiling destination. Relatively few of these trips were overnight trips, however, and most expenditures were directly related to the machines themselves (snowmobiles, trailers, repairs, gas, etc.) and relatively little money was spent on lodging, food, activity guides, and fees. For example, respondents reported spending only \$8.50 per household for food on their most recent trip, and only eleven percent of the sample paid club membership dues and expenses. Thus, while there is a high level of commitment to snowmobiling in Utah, there are not a lot of general tourism dollars spent on the activity in destination areas, which results in relatively high rate of seepage of revenue out of Utah, compared to other states.

A tentative conclusion from these data is that while Utahns have a similar level of commitment to snowmobiling compared to residents of other states, they have fewer non-essential expenditures. For example, compared to resident snowmobilers in New Hampshire (Robertson 1996), Utah household expenditures for gas and oil, for snowmobiles, and for trailers are very similar, but significantly less (about 75%) for lodging, eating and drinking establishments, and food and grocery stores during trip outings. There are some methodological and analysis differences that make state comparisons difficult, but the general pattern is quite consistent. More research is needed on these differences, particularly for regional expenditures.

During the 1999-2000 season, over 97 percent of the snowmobiling trips took place in nine areas of the state, and 83.3 percent of the trips were in just five areas. The Hardware Ranch–Monte Cristo–Logan Canyon area in northern Utah is the most popular area by far, accounting for 33.5 percent of the trips last winter. Utah snowmobilers also participate in a relatively wide range of snowmobiling styles. Off-trail riding is the preferred style of the majority of snowmobilers, but nearly 30 percent of the respondents participated in all four riding styles at least once during the 1999-2000 season.

Perceptions of conflict are very low among Utah snowmobilers. While the survey question was very general, 87 percent of the respondents reported having no conflicts with other recreationists. The few conflicts they experienced were with skiers, environmentalists, the Forest Service, or other snowmobilers. These are typical forms of conflict, and they seem minor enough to indicate that education and communication has been successful in the state, and that the opportunity exists for reaching common ground on site specific problems or conflicts, at least from the perspective of snowmobilers. It must be noted, however, that this may not be the perception of other interest groups, as asymmetrical antipathy (one way conflict) probably exists, especially related to how skiers view snowmobilers as a source of conflict, as found by Keith et al. 1978. Again, more research is needed, but at a minimum, monitoring of the potential conflicts and keeping the lines of communication open are important.

Satisfaction with state snowmobiling services is moderately high, but there is room for improvement. Respondents are generally satisfied with the number and variety of trails and with law enforcement efforts, but between 25 and 40 percent expressed dissatisfaction with the availability of information, and with trailhead restrooms, garbage facilities and parking, and trail grooming.

Several trailhead concerns seem to be related, especially those dealing with parking, and might be considered a management priority. For example, after trail grooming, the highest specific problem mentioned in the open-ended questions, was “not enough parking space” which was identified by one-third (122) of the respondents. This is similar to the results of a Utah State University student project conducted in March 1998 at several parking lots in Logan Canyon, which identified parking space and parking lot plowing and crowding as the biggest problems for snowmobilers. Nearly all open-ended comments made by respondents who were dissatisfied with trailhead facilities reflected the desire for more information and facilities.

Compared to several other states, Utahns pay relatively little for access fees. However, contrary to the stereotype that some people hold, Utah snowmobilers tend to have relatively high levels of income and education. This indicates that the snowmobilers of Utah are relatively sophisticated and economically well off.

The economic activity generated by snowmobiling is quite large, but more research is needed on local economic effects of snowmobiling, and ways to capture more snowmobiling related expenses in the State’s economy. Regional management issues also need further research. Several recent Utah studies have found that trails and trail related issues are a major recreation and open space priority for both the state and local communities in the future (Blahna et al. 2000, etc.).

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Appendices

Appendix A: IMPLAN Analysis

The material in Appendix A is copyrighted by Ikuko Fujisaki and is re-printed here with permission of the author. Appendix tables and figures are numbered according to their appearance in Fujisaki (2001).

Economic Impact of Snowmobiling in Utah

Tables 11 and 12 show that the average per trip expenditure was \$126.87 while the respondents' annual expenditure on snowmobiling was \$2,931.82. The average number of per household snowmobiling trips was 12.3 (Table 13). Therefore, the estimated total trip expenditure per household was \$1,560.50 (\$126.87 multiplied by 12.3).

The purchase of snowmobiles is the largest portion of the annual expenditures. Only 25% (91) of the sample subjects bought snowmobiles, yet snowmobile purchases comprised 27% of total expenditures on average (Figure 3), and 81% of the sample subjects own more than two registered snowmobiles during the 1999-2000 season. Trip expenditures were a relatively small portion of the total annual expenditures (26%) (Figure 3). One reason was that because overnight snowmobile trips were more rare, people did not spend much on lodging and food.

Overnight snowmobile trips made up 13% of all the snowmobile trips during the season and the average traveling distance to travel to snowmobile was short (50.1 miles) (Table 13).

Table 11. Per Trip Expenditures of Sample Subjects

Expenditure categories	Mean	Median	S.D.	Range
Gas and oil for snowmobiles	31.03	20.00	40.06	0-500
Gas and oil for tow vehicles	22.40	20.00	20.62	0-210
Lodging	6.39	0.00	61.37	0-1,020
Eating and drinking establishment	8.50	0.00	28.03	0-400
Food from grocery or convenience stores	13.28	5.00	25.80	0-200
Parking area fees	1.07	0.00	2.63	0-35
Other recreation activities	0.79	0.00	11.00	0-200
Snowmobile rentals, tour packages, or guide services	0.75	0.00	8.00	0-90
Repairs or maintenance on snowmobiles	36.86	0.00	188.08	0-2,200
Retail items	5.67	0.00	48.71	0-800
Other	0.13	0.00	-	0-50

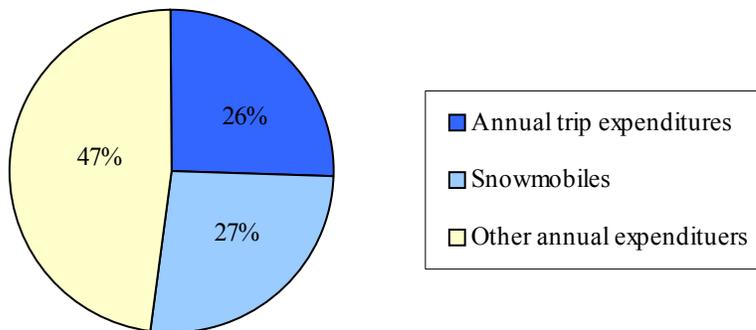
Table 12. Annual Expenditures of Sample Subjects

Expenditure categories	Mean	Median	S.D.	Range
Snowmobiles	1,623.00	0.00	3,478.32	0-20,000
Trailers used for transporting snowmobiles	316.53	0.00	1,311.76	0-15,000
Snowmobile repairs, parts, or accessories	542.27	200.00	954.33	0-6,000
Insurance for snowmobiles	125.70	0.00	187.27	0-1,550
Snowmobile clothing	115.98	0.00	232.83	0-1,000
Snowmobile club dues and other club expenses	12.31	0.00	48.50	0-750
Snowmobile registration, license taxes	168.92	140.00	138.50	0-800
Snowmobile storage	22.63	0.00	120.40	0-1,400
Other	4.48	0.00	-	0-100
Total	2,931.82			

Table 13. Snowmobile Trip Characteristics of the Sample Subjects

Characteristic	Mean
Number of household snowmobile trips	12.3
Number of household overnight snowmobile trips	1.6
Number of snowmobile days of the most recent trip	1.3
Miles traveled to get to the trailhead	50.1

Figure 3. Proportion of Snowmobiling-Related Expenditures



To apply IMPLANTM, the average itemized per trip and annual expenditures were applied to the equation explained in the section II-2 (Tables 14 and 15) in Fujisaki (2000). Total statewide expenditures, including trip expenditures by registered snowmobile owners, were estimated at \$58 million (\$19.7 million on trip expenditures and \$38.6 million on annual expenditures) during 1999–2000. The itemized expenditures were categorized using the 1987 Standard Industrial Code (SIC) (Tables 16 and 17). Since both trip and annual expenditures on machine repair were asked, trip repair expenditures were subtracted from the annual repair expenditures to avoid counting the same expenditures twice.

Table 16. Expenditure Categories and SIC-for Per Trip Expenditures

Economic activity	Code	IMPLAN sector	Expenditures (\$)
Food	450	Food stores	2,061,943.00
Gas and oil	451	Auto dealers and Service Stations	8,295,905.00
Eating	454	Eating and drinking establishments	1,319,768.00
Miscellaneous Retail	455	Miscellaneous retail	880,363.00
Lodging	463	Hotels and lodging	992,155.00
Repairs	482	Miscellaneous repair shops	5,723,134.00
Rentals, guides, other recreation	488	Amusement and recreation services	239,111.00
Parking fees	523	State and local government	166,135.00
Other	468	Miscellaneous personal services	20,184.00
Total trip expenditures			19,698,698.00

Table 17. Expenditure Categories and SIC-for Annual Expenditures

Economic activity	Code	IMPLAN sector	Expenditures (\$)
Storage	435	Motor freight transport and warehousing	297,879.00
Tools	448	Building materials and equipment	1,580.00
Snowmobile and trailer purchase	451	Automotive dealers and service stations	25,535,960.00
Clothing	452	Apparel and accessory stores	1,526,645.00
Miscellaneous retail	455	Miscellaneous retail	2,106.00
Insurance	459	Insurance carriers	1,654,589.00
Hotels	463	Hotels and lodging places	30,012.00
Repairs (excluding repairs on trips)	482	Miscellaneous repair shops	1,414,766.00
Rentals	488	Amusement and recreation services	53,026.00
Club dues	489	Membership sports and recreation clubs	162,037.00
Registration and taxes	523	State and local government	2,223,494.00
Total annual expenditures			32,902,094.00

Changes in total annual expenditures are not necessarily equal to the regional (state) final demand because the entire expenditure amount is not retained in the local area. The IMPLANTM model with Utah Regional Direct Coefficients Matrix 1999 was used to apply local purchase coefficients. The consumer prices (total expenditures made) were converted to producer prices using these coefficients (proportion of total expenditures received locally). This is the amount of total expenditures locally retained through the economic activities studied.

In the IMPLAN™ model, Regional Direct Coefficients Matrix (industry by industry matrix) is the cross product of the Regional Market Share Matrix (industry by commodity matrix), which represents a certain industry's production of a given region's total commodity production, and Regional Absorption Matrix (commodity by industry matrix), which establishes inter-industry purchases (Alward et al. 1989). The matrix has 531 rows as input sectors and columns as output sectors, including 528 industrial and governmental sectors, and three sectors of state/local government non-education, foreign trade, and domestic trade. The matrix represents 281,961 transactions in total (531 times 531). Figure 5 shows part of the matrix used for this study. The sum of the i^{th} row is the total gross output for that industrial sector, while the sum of the j^{th} column indicates total gross inputs.

Figure 5. Utah Regional Direct Coefficients Matrix in 1999

	Industry 1 Dairy Farm Products	Industry 2 Poultry and Eggs	Industry 3 Ranch Fed Cattle	Industry 4 Range Fed Cattle	Industry 5 Sheep- Lambs and Goats	Total
Industry 1 Dairy Farm Products	0.0798663	8.85E-02	0.1206604	0.1644193	9.73E-02	0.5507843
Industry 2 Poultry and Eggs	3.32E-02	3.68E-02	6.93E-03	9.44E-03	5.58E-03	0.0919325
Industry 3 Ranch Fed Cattle	1.26E-03	5.77E-02	11.75285	1.48E-02	8.76E-03	11.835366
Industry 4 Range Fed Cattle	4.85E-03	0.110342	2.08E-02	51.48726	1.68E-02	51.639998
Industry 5 Sheep-Lambs and Goats	0.0407403	4.52E-02	8.51E-03	1.16E-02	5.603299	5.709297
Total	0.15991001	0.33850723	11.9097273	51.6875141	5.7317186	69.82738

Economic activities such as recreation participation create indirect and induced effects as well as direct effects of related expenditures on an area. The indirect and induced effects are called the multiplier impact (Otto et al. 1993). Regional multipliers are used to describe the total effect, including direct, indirect, and induced effect, and can be applied to estimate employment and other related economic variables.

The direct effects result from the local absorption of direct expenditure made in snowmobiling related enterprises. The results showed that the number of industries that received direct effect was 46 in output impact, 41 in total value added impact, 17 in employment impact, and 41 in labor income impact (Table 18). This indicates that snowmobiling activities have a direct economic effect in relatively few economic sectors. The indirect effect is additional local spending due to the direct effect. Indirect effects influence a greater number of industrial sectors than the direct effects. For example, 389 sectors are affected by output impact and 74 sectors by employment impact as a result of the indirect effects (Table 18 and 20). Induced effect accounts for the change in industrial output that might be generated by household expenditures due to added income. The number of sectors impacted by induced effects was also larger than those impacted by direct effects. For example, snowmobiling related direct expenditures caused \$22.0 million in direct effects on 46 industrial sectors in state domestic product (output impact), and this generated an additional \$7.1 million of induced effect in 406 industrial sectors (Table 18).

Tables 18–22 show the direct, indirect, and induced effects of output (state domestic product), value added, labor income, employment, and state and local tax revenue. The estimated impacts were \$33.6 million in output impact and \$20.0 million in value added impact. A total of 527 jobs were created, producing \$12 million in income and an estimated \$5.5 million in government tax revenue.

Table 18. Output Impact

		Direct	Indirect	Induced	Total
Trip	Impact in dollars	10,410,677.0	2,613,540.0	2,988,053.0	16,012,270.0
	Number of industrial sectors	36 (6.8%)	385 (72.5%)	397 (74.8%)	412 (77.6%)
Annual	Impact in dollars	11,603,934.0	1,872,190.0	4,124,814.0	17,600,938.0
	Number of industrial sectors	39 (7.3%)	366 (68.9%)	401 (75.5%)	411 (77.4%)
Total	Impact in dollars	22,014,611.0	4,485,730.0	7,112,867.0	33,613,208.0
	Number of industrial sectors	46 (7.7%)	389 (73.3%)	406 (76.6%)	412 (77.6%)

Table 19. Total Value Added Impact

		Direct	Indirect	Induced	Total
Trip	Impact in dollars	4,822,736.0	1,481,495.0	1,795,575.0	8,099,806.0
	Number of industrial sectors	33 (6.2%)	366 (68.9%)	383 (72.1%)	398 (75.0%)
Annual	Impact in dollars	7,596,348.0	1,093,686.0	2,478,669.0	11,168,703.0
	Number of industrial sectors	33 (6.2%)	342 (64.4%)	388 (73.1%)	393 (74.0%)
Total	Impact in dollars	12,419,084.0	2,575,181.0	4,274,244.0	19,268,509.0
	Number of industrial sectors	41 (7.7%)	374 (70.4%)	395 (74.4%)	404 (76.1%)

Table 20. Employment Impact

		Direct	Indirect	Induced	Total
Trip	Impact in jobs created	170.7	34.8	45.6	251.2
	Number of industrial sectors	13 (2.4%)	63 (11.9%)	82 (15.4%)	110 (20.7%)
Annual	Impact in jobs created	186.9	26.5	63.0	276.4
	Number of industrial sectors	11 (2.1%)	54 (10.2%)	87 (16.4%)	101 (19.0%)
Total	Impact in jobs created	357.6	61.3	108.7	527.6
	Number of industrial sectors	17 (3.2%)	74 (13.9%)	108 (20.3%)	131 (24.7%)

Table 21. Labor Income Impact

		Direct	Indirect	Induced	Total
Trip	Impact in dollars	3,330,862.0	913,992.0	1,055,505.0	5,300,358.0
	Number of industrial sectors	33 (6.2%)	264 (49.7%)	272 (51.2%)	294 (55.4%)

Annual	Impact in dollars	5,176,100.0	691,792.0	1,457,263.0	7,325,155.0
	Number of industrial sectors	30 (5.6%)	329 (62.0%)	379 (71.4%)	390 (73.4%)
Total	Impact in dollars	8,506,962.0	1,605,784.0	2,512,768.0	12,625,513.0
	Number of industrial sectors	41 (7.7%)	366 (68.9%)	389 (73.3%)	400 (75.3%)

Table 22. Tax Impact

	Enterprises	Federal	State/Local	Total
Trip	3,647.0	1,264,753.0	1,025,153.0	2,293,553.0
Annual	5,246.0	1,769,258.0	1,457,030.0	3,231,534.0
Total	8,892.0	3,034,011.0	2,482,183.0	5,525,086.0

Table 23. Type I and Type III Multipliers of Snowmobiling Activities in Utah

Impact name	Direct	Direct + Indirect	Total	Type I	Type III
Output Impact	22,014,611.00	26,500,341.00	33,613,208.00	1.20	1.53
Total value added impact	12,419,084.00	14,994,265.00	19,268,509.00	1.21	1.55
Employment impact	357.60	418.90	527.60	1.17	1.48
Labor income impact	8,506,962.00	10,112,746.00	12,625,513.00	1.19	1.48

These values are also used to estimate state multipliers of snowmobiling activities. Table 23 shows the Type I and Type III multipliers derived from the estimated impact. The Type I multiplier is the direct effect plus the indirect effect divided by the direct effect. This multiplier is based on the assumption that increased final demand created by snowmobiling activities leads to increased employment and population with the average income level. The Type III multiplier is the sum of the direct, indirect and induced effect divided by the direct effect. It is assumed that an increase in output will increase income levels and household consumption proportionately. It is considered that the Type III multiplier is the more realistic indicator because it takes all impacts into account.

Appendix B: Survey

1999-2000 UTAH SNOWMOBILING SURVEY ID. _____

1. What is your favorite area to snowmobile in Utah? _____
[CHECK OFF THE FOLLOWING REGIONS. ASK TO EXPLAIN IF THE AREA IS UNCLEAR. REFER TO ATTACHED MAPS.]

- ' Hardware Ranch, Monte Cristo, and Logan Canyon, (Cache, Rich, and Weber)
- ' Wasatch Mountain, (Salt Lake, Summit, Utah and Wasatch)
- ' Mirror Lake, and Current Creek, (Summit, Wasatch, and Duchesne)
- ' Uinta Basin, (Daggett, and Uinta)
- ' Ephraim, Manti, Joe Valley, and Ferron, (Sanpete and Emery)
- ' Scofield, and Skyline Drive (Utah, Sampete, Wasatch, and Emery)
- ' Fishlake, (Seiver, Piute, and Wayne)
- ' Cedar Mountain, and East Fork, (Iron, Garfield, and Kayne)
- ' Strawberry Valley, (Wasatch and Utah)
- ' Other areas (please specify county): _____

2. What is your *favorite* snowmobiling riding style? Would you say **[CHECK ONE.]**

- ' Trail Riding,
- ' Off-trail Riding,
- ' Side Hilling/High marking,
- ' Hill Climbing,
- ' Combination of above (please specify): _____
- ' Other (please specify): _____

3. What types of groups do you usually go with on a typical snowmobile trip? Do you usually go **[CHECK ALL THAT APPLY.]**

- ' Alone,
- ' With members of your immediate family,
- ' With other relatives,
- ' With snowmobile club members,
- ' With friends,
- ' With others (please specify): _____

4. How many registered snowmobiles did you have in your household during this season? _____

Now I have some questions about your snowmobiling trips in Utah this season. Since there are still a couple of weeks left in this snowmobiling season, please include any trips you have planned for the rest of the season to answer these questions.

5. Including yourself, how many members of your household went snowmobiling at least once in Utah during this season? _____

6. How often did you or the other people living in your household snowmobile during this season?
_____ times

7. How many overnight trips in Utah did you and other people living in your household take during this past season? _____ trips **[BY OVERNIGHT TRIPS I MEAN: Where you went snowmobiling more than one day but did not return to your own home.]**

8. Did *you* snowmobile during this season?

- ' Yes
- ' No **[GO TO 18]**

8a. How many times did you go snowmobiling during this season? _____ times

8b. Is this a typical number of snowmobiling trips for you during a season?

' Yes [GO TO 9]

' No [GO TO 8c]

8c. If no, how many times do you go snowmobiling during a typical season? _____ times

9. Which activities did you participate in during this season? Did you go [CHECK ALL THAT APPLY.]

' Trail Riding?

' Off-trail Riding?

' Side Hilling or High marking?

' Hill Climbing?

' Other (please specify): _____

10. When was your most recent snowmobiling trip in Utah? _____

11. Where did you go for your most recent snowmobiling trip in Utah? _____

[CHECK OFF THE FOLLOWING REGION. ASK TO EXPLAIN IF THE AREA IS UNCLEAR REFER TO ATTACHED MAPS.]

' Hardware Ranch, Monte Cristo, and Logan Canyon, (Cache, Rich, and Weber)

' Wasatch Mountain, (Salt Lake, Summit, Utah and Wasatch)

' Mirror Lake, and Current Creek, (Summit, Wasatch, and Duchesne)

' Uinta Basin, (Daggett, and Uinta)

' Ephraim, Manti, Joe Valley, and Ferron, (Sanpete and Emery)

' Scofield, and Skyline Drive (Utah, Sanpete, Wasatch, and Emery)

' Fishlake, (Seiver, Piute, and Wayne)

' Cedar Mountain, and East Fork, (Iron, Garfield, and Kayne)

' Strawberry Valley, (Wasatch and Utah)

' Other Areas (please specify county): _____

[NOTE!]

11a. [IF THE REGION IS NOT SAME AS Q1] Why did you go to _____ [FROM Q11] rather than _____ [FROM Q1] ?

Now I would like to ask you a series of questions about this trip to _____ [FROM Q11].

12. How long was this snowmobile trip? _____ days

13. How many miles did you snowmobile on this trip? _____ miles

14. How much gasoline did you use in your snowmobiles? _____ gallons

15. How many miles, did you travel to get to the snowmobile trailhead for this trip? _____ miles

16. Did you go alone on this trip or were there other members of your household with you?

' Alone [GO TO 17]

' With other members of my household [GO TO 16a]

16a. How many other people from your household went with you? _____

17. Now I would like to get an estimate of how much your household spent on your most recent snowmobile trip and where you made those expenditures. Please give me your best estimate for each category of expense that I mention, but please only report expenses you made in Utah, and just report the proportional share of expenses for your household. Okay? [IF REQUESTED TO EXPLAIN:

For example, if a member of your household shared a motel room with other riders, only report your share of the cost of the motel room.] How much did you spend on

Items	Total dollars spent	In city you live	En route	At destination
Gasoline and oil for your snowmobiles	\$ _____	\$ _____	Where \$ _____	\$ _____
Gas and oil for tow vehicles	\$ _____	\$ _____	Where \$ _____	\$ _____
Lodging	\$ _____	\$ _____	Where \$ _____	\$ _____
Eating and drinking establishment	\$ _____	\$ _____	Where \$ _____	\$ _____
Food from grocery or convenience stores	\$ _____	\$ _____	Where \$ _____	\$ _____
Parking area fees	\$ _____	\$ _____	Where \$ _____	\$ _____
Other recreation activities (like movies, ski areas, etc.)	\$ _____	\$ _____	Where \$ _____	\$ _____
Snowmobile rentals, tour packages, or guide services	\$ _____	\$ _____	Where \$ _____	\$ _____
Repairs or maintenance on snowmobiles	\$ _____	\$ _____	Where \$ _____	\$ _____
Retail items	\$ _____	\$ _____	Where \$ _____	\$ _____

- Did you have any other expenses you can remember? If so, please specify the item(s) and the expenditure.

Item 1 _____ \$ _____

Where were those expenses made?

' In the county you live, ' on route **[IF SO: Which city?]** _____, or ' at destination?

Item 2 _____ \$ _____

' In the county you live, ' on route **[IF SO: Which city?]** _____, or ' at destination?

18. O.K., now I am going to read a list of items that might be purchased by snowmobilers over the course of a year. Indicate the amount spent by your *household* during the last 12 months for each category of item. Did you buy any

Items	Total dollars spent	In city you live	Other city
Snowmobiles	\$ _____	\$ _____	Where \$ _____
Trailers used for transporting snowmobiles	\$ _____	\$ _____	Where \$ _____
Snowmobile repairs, parts, or accessories (belts, sparkplugs, oil, etc.)	\$ _____	\$ _____	Where \$ _____
Insurance for snowmobiles	\$ _____		
Snowmobile clothing	\$ _____	\$ _____	Where \$ _____
Snowmobile club dues and other club expenses	\$ _____	\$ _____	Where \$ _____
Snowmobile registration, license, taxes	\$ _____		
Snowmobile storage	\$ _____	\$ _____	Where \$ _____

- Can you think of other expenditures that you made primarily to support snowmobiling activities? If so, please specify the item(s) and the expenditure.

Item 1 _____ \$ _____

Was that spent in the county that you live in? ' Yes ' No [IF NO: Which city?]

Item 2 _____ \$ _____

Was that spent in the county that you live in? ' Yes ' No [IF NO: Which city?]

- Did you make any of your purchases over internet? [IF SO: What? How much total?]

Item _____ \$ _____

19. Thinking about the total amount you spent for snowmobiling this year, is it less, about the same, or more than a typical year?

- ' Less than (How much less?) \$ _____
- ' About the same
- ' More than (How much more?) \$ _____

20. Now I have some questions about your level of satisfaction with the available snowmobile sites and services in Utah. For each, please tell me if you are very satisfied, satisfied, dissatisfied, or very dissatisfied.

	Very satisfied	Satisfied	Dissatisfied	Very Dissatisfied	[IF ANSWERED DISSATISFIED : Why are you dissatisfied?]
Parking space available at trailheads					
Plowing at trailheads in Utah					
Restrooms at trailheads					
Garbage facilities at trailheads					
Information stands at trailheads					
Trail grooming in Utah					
Number of trails					
Variety of trails in the state					
Availability of maps					
Law enforcement on trails					

21. When you are snowmobiling, have you had any conflicts or problems with other snowmobilers or any other types of recreationists?

- ' No
- ' Yes **[IF SO]** Who? _____
What was the problem? _____
Where? _____

22. Are you familiar with the *Know Before You Go* snowmobile education program?

- ' No
- ' Yes **[IF SO]** How satisfied are you with this program? Are you
 - ' Very satisfied
 - ' Dissatisfied

Appendix C: Tables and Survey Comments

Utah Registered Snowmobile Owner's Population and Sample Distribution

Group		Number	Percentage of Group
Population of Utah registered snowmobile owners ¹		13163	100% of population
Selected sample		1441	10.9% of population
Ineligible ²		756	52.5% of Selected sample
Valid phone numbers		685	47.5% of Selected Sample
Respondents		373	54.5% of valid phone numbers ³
Non-respondents ⁴		312	45.5% of valid phone numbers

¹ Taken from State of Utah, registered snowmobile owners lists, 1998, supplied by Tax Commission and the Division of Motor Vehicles.

² This includes no phone numbers (586), disconnected or moved (68), wrong numbers (35), did not snowmobile (33), and sold snowmobiles (34). Data provided by Tax Commission and the Division of Motor Vehicles; no phone number was listed for many snowmobile owners. Therefore, a large portion of the selected sample was eliminated from the sampling process from the start.

³ This is also the response rate for the survey.

⁴ This includes rejections (114), answering machine (77), unavailable respondent (73), no answer (47), and other (1).

Q1: Favorite Snowmobile Areas

Areas	Number	Percent
Hardware Ranch, Monte Cristo, and Logan Canyon	131	35.1%
Strawberry Valley	60	16.1%
Wasatch Mountain	45	12.1%
Mirror Lake and Current Creek	42	11.3%
Scofield and Skyline Drive	38	10.2%
Uintah Basin	17	4.6%
Ephraim, Manti, Joe`s Valley, and Ferron	16	4.3%
Fish Lake	6	1.6%
Cedar Mountain and East Fork	6	1.6%
Other areas ¹	12	3.2%

¹ This includes Timber Lake (2), Anywhere at all in northern Utah (1), Around Garland (1), Duck Creek in King County (1), His dry farm in Box Elder County (1), Manti-La Sal National Forest (1), Tooele (1), Wasatch County (1), Washington County (1), and Willand Park in Box Elder County (1).

Q2: Favorite Snowmobile Riding Style

Riding Styles		Number	Percent
Trail Riding		63	16.9%
Off-trail Riding		150	40.2%
Side Hilling/High Marking		11	2.9%
Hill Climbing		19	5.1%
Other		8	2.1%
Combination of Above		122	32.7%
	All	31	25.4% of respondents who answered "combination of above"
	Trail Riding & Off-trail Riding	21	17.2%
	Off-trail Riding & Hill Climbing	17	13.9%
	Off-trail Riding, Side Hilling/High Marking & Hill Climbing	13	10.7%
	Did not specify the combination	13	10.7%
	Trail Riding & Hill Climbing	7	5.7%
	Off-trail Riding & Side Hilling/High Marking	7	5.7%
	Side Hilling/High Marking & Hill Climbing	7	5.7%
	Trail Riding, Off-trail Riding & Hill Climbing	4	3.3%
	Trail Riding, Off-trail Riding & Side Hilling/High Marking	1	0.8%
Trail Riding & Side Hilling/High Marking	1	0.8%	

Q3: Types of Groups Respondents Go with on a Typical Snowmobile Trip

Types of Groups	Number ¹	Percent
With friends	255	68.4%
With members of immediate family	230	61.7%
With other relatives	44	11.8%
With snowmobile club members	8	2.1%
With others	7	1.9%
Alone	5	1.3%

¹ Respondents could select multiple categories. Based on 373 respondents.

Q4: Number of Registered Snowmobiles in a Household During 1999/2000 Season

Number of Registered Snowmobiles <i>(Mean=2.6)</i>	Number	Percent
0	1	0.3%
1	69	18.5%
2	154	41.3%
3	57	15.3%
4	66	17.7%
More than 5	26	6.9%

Q5: Number of Household Members Who Went on Snowmobile Trips in Utah During 1999/2000 Season

Number of Household Members <i>(Mean=3.2)</i>	Number	Percent
0	18	4.8%
1	58	15.5%
2	95	25.5%
3	46	12.3%
4	66	17.7%
5	34	9.1%
6	35	9.4%
7	10	2.7%
8	7	1.9%
9	1	0.3%
10	3	0.8%

Q6: Number of Household Snowmobile Trips During 1999/2000 Season

Number of Household Snowmobile Trips <i>(Mean=12.3)</i>	Number	Percent
None	15	4.2%
1 to 5	116	32.1%
6 to 10	80	22.2%
11 to 15	54	15.0%
16 to 20	35	9.7%
More than 21	61	16.9%

Q7: Number of Overnight Snowmobile Trips

Number of Overnight Trips <i>(Mean=1.6)</i>	Number	Percent
None	232	64.3%
1 to 5	100	27.7%
6 to 10	15	4.2%
More than 11	14	3.9%

Q8: Snowmobile Trips During 1999/2000 Season

Characteristic		Number	Percent
Went on snowmobile trip this season	Yes	346	92.8
	No	27	7.2%
Number of snowmobile trips during this season <i>(Mean=12.5)</i>	None	27	7.3%
	1 to 5	99	26.8%
	6 to 10	85	23.0%
	11 to 15	53	14.3%
	16 to 20	43	11.6%
	21 to 25	29	7.8%
	More than 25	34	9.2%
If yes, is this a typical number of snowmobile trips in a season?	Yes	174	51.0%
	No	167	49.0%
If no, is this a typical number of snowmobile trips? <i>(Mean=19.0)</i>	1 to 5	13	7.8%
	6 to 10	28	16.9%
	11 to 15	42	25.3%
	16 to 20	34	20.5%
	21 to 25	18	10.8%
	25 to 30	11	6.6%
	More than 30	20	12.0%

Q9: Snowmobile Activities Participated in During the 1999/2000 Season

Activities	Number ¹	Percent
Off-trail Riding	271	79.0% of respondents
Trail Riding	259	75.5%
Side Hilling/High Marking	150	43.7%
Hill Climbing	149	43.4%
Other	8	2.3%

¹ Respondents could answer multiple categories. Based on 343 respondents.

Q10-16: The Most Recent Snowmobile Trip Characteristics

Characteristic		Number	Percent
Month of the most recent snowmobiling trip	November	2	0.6%
	December	8	2.4%
	January	14	4.2%
	February	71	21.3%
	March	115	34.4%
	April	91	27.2%
	May	32	9.6%
	June	1	0.3%
Snowmobile area	Hardware Ranch, Monte Cristo, and Logan Canyon	116	33.5%
	Mirror Lake and Current Creek	50	14.5%
	Strawberry Valley	47	13.6%
	Wasatch Mountain	45	13.0%
	Scofield, and Skyline Drive	30	8.7%
	Uintah Basin	20	5.8%
	Ephraim, Manti, Joe's Valley, and Ferron	16	4.6%
	Fish Lake	8	2.3%
	Cedar Mountain and East Fork	5	1.4%
	Other areas ¹	9	2.6%
Number of days on this trip <i>(Mean=1.3)</i>	1	284	82.1%
	2	41	11.8%
	3	15	4.3%
	More than 3	6	1.7%

Miles snowmobiled <i>(Mean=57.0)</i>	None	1	0.3%
	1 to 20	45	13.3%
	21 to 40	85	25.1%
	41 to 60	121	35.7%
	61 to 80	42	12.4%
	81 to 100	19	5.6%
	More than 100	26	7.7%
Gasoline used in their snowmobiles (gallons) <i>(Mean=13.7)</i>	None	1	0.3%
	1 to 5	83	25.6%
	6 to 10	141	43.5%
	10 to 15	49	15.1%
	16 to 20	13	0.4%
	More than 20	37	11.6%
Miles traveled to get to the trail head <i>(Mean=50.1)</i>	None	5	1.5%
	1 to 20	72	21.7%
	21 to 40	89	26.8%
	41 to 60	83	25.0%
	62 to 80	38	11.4%
	81 to 100	23	6.9%
	More than 100	22	6.6%
Went on the trip with household members	Yes	186	54.1%
	No	158	45.9%
If yes, number of people from household went with <i>(Mean=2.5)</i>	1	78	43.3%
	2	32	17.8%
	3	24	13.3%
	4	26	14.4%
	More than 5	20	11.1%

¹ This includes Bench Creek (1), Grantsville (1), Hickman Canyon (1), Southern Utah (1), Swan Park (1), Timber Lake (1) and Twelve Miles Canyon (1).

Q17: Expenditures for Most Recent Snowmobile Trip

Expenditure Categories	Dollars Spent	Number	Percent
Gasoline and oil for snowmobiles <i>(Mean=31.03)</i>	None	5	1.5%
	1 to 20	189	56.4%
	21 to 40	84	25.1%
	41 to 60	33	9.9%
	More than 60	24	7.2%
Gas and oil for tow vehicles <i>(Mean=22.40)</i>	None	19	5.7%
	1 to 20	196	58.7%
	21 to 40	91	27.2%
	41 to 60	18	5.3%
	More than 60	10	3.0%
Lodging <i>(Mean=6.39)</i>	None	330	97.3%
	More than 1	9	2.7%
Eating and drinking establishments <i>(Mean=8.50)</i>	None	227	67.2%
	1 to 25	83	24.6%
	25 to 50	20	5.9%
	More than 50	8	2.4%
Food from grocery or convenience stores <i>(Mean=13.28)</i>	None	115	33.9%
	1 to 25	184	54.3%
	25 to 50	23	6.8%
	More than 50	17	5.0%
Parking area fees <i>(Mean=1.07)</i>	None	265	78.4%
	1 to 5	64	18.9%
	More than 5	9	2.7%
Other recreation activities <i>(Mean=0.79)</i>	None	329	97.6%
	More than 1	8	2.4%

Snowmobile rentals, tour packages, or guide services <i>(Mean=0.75)</i>	None	336	99.1%
	More than 1	3	0.9%
Repairs or maintenance on snowmobiles <i>(Mean=36.86)</i>	None	288	84.7%
	1 to 100	32	9.4%
	More than 100	20	5.9%
Retail items <i>(Mean=5.67)</i>	None	325	95.9%
	More than 1	14	4.1%

Note: Mean of “other expenditure (Miscellaneous personal service)” is \$0.13.

Q18: Snowmobiling Related Annual Expenditures

Expenditure Categories	Dollars Spent	Number	Percent
Snowmobiles <i>(Mean=1623.45)</i>	None	273	74.2%
	1 to 5000	36	9.8%
	5001 to 10000	47	12.8%
	More than 10000	12	3.3%
Trailers used for transporting snowmobiles <i>(Mean=316.53)</i>	None	319	86.7%
	1 to 1000	21	5.7%
	More than 1000	28	7.6%
Snowmobile repairs, parts, or accessories (belts, sparkplugs, oil, etc.) <i>(Mean=542.27)</i>	None	62	16.9%
	1 to 500	207	56.6%
	501 to 1000	51	13.9%
	1001 to 1500	15	4.1%
	1501 to 2000	8	2.2%
	2001 to 2500	8	2.2%
	More than 2500	15	4.1%
Insurance for snowmobiles <i>(Mean=125.70)</i>	None	184	51.7%
	1 to 100	32	9.0%
	101 to 200	58	16.3%
	201 to 300	41	11.5%
	More than 300	41	11.5%
Snowmobile clothing <i>(Mean=115.98)</i>	None	222	60.2%
	1 to 100	41	11.1%
	101 to 200	46	12.5%
	201 to 300	22	6.0%
	301 to 400	10	2.7%
	401 to 500	10	2.7%
	More than 500	18	4.9%

Snowmobile club dues and other club expenses <i>(Mean=12.31)</i>	None	325	88.3%
	1 to 100	29	7.9%
	More than 100	14	3.8%
Snowmobile registration, license taxes <i>(Mean=168.92)</i>	None	16	4.6%
	1 to 100	119	34.5%
	101 to 200	121	35.1%
	201 to 300	52	15.1%
	301 to 400	18	5.2%
	More than 400	19	5.5%
Snowmobile storage <i>(Mean=22.63)</i>	None	346	93.8%
	More than 1	23	6.2%

Note: Mean of "other expenditure" is \$6.59. This includes rentals (\$4.03), miscellaneous retail (\$0.16), tools (\$0.12), and hotels (\$2.28).

Q19: Level of Total Expenditure of This Season Compared to a Typical Season

Characteristic		Number	Percent	
Less than typical year		146	40.0%	
About the same		144	39.5%	
More than typical year		75	20.5%	
	If less than typical year, how much less? <i>(Mean=887.78)</i>	1 to 500	84	65.1%
		501 to 1000	19	14.7%
		More than 1000	26	20.2%
	If more than typical year, how much more? <i>(Mean=3705.52)</i>	1 to 500	15	21.1%
		501 to 1000	16	22.5%
		More than 1000	40	56.3%

Q20: Level of Satisfaction with Snowmobile Facilities and Services in Utah

Characteristic	Very dissatisfied	Dissatisfied	Satisfied	Very satisfied	Mean ¹
Variety of trails in the state	0.0% (0)	8.8% (30)	74.3% (254)	17.0% (58)	3.08
Plowing at trailheads in Utah	2.6% (9)	11.9% (42)	74.4% (262)	11.1% (39)	2.94
Number of trails	1.2% (4)	16.1% (55)	70.1% (239)	12.6% (43)	2.94
Law enforcement on trails	0.9% (3)	13.4% (44)	76.2% (250)	9.5% (31)	2.94
Availability of maps	2.3% (7)	29.5% (88)	58.4% (174)	9.7% (29)	2.76
Restrooms at trailheads	2.8% (9)	25.2% (81)	66.4% (213)	5.6% (18)	2.74
Information stands at trailheads	2.3% (7)	32.9% (98)	58.1% (173)	6.7% (20)	2.69
Garbage facilities at trailheads	4.8% (14)	30.1% (88)	61.3% (179)	3.8% (11)	2.64
Trail grooming in Utah	11.5% (40)	30.7% (107)	49.0% (171)	8.9% (31)	2.6
Parking space available at trailheads	9.5% (34)	31.4% (112)	51.5% (184)	7.6% (27)	2.57

¹Mean is based on a scale where 1=Very dissatisfied, 2=Dissatisfied, 3=Satisfied, and 4=Very satisfied.

Reasons for Dissatisfaction

Parking space available at trailheads

Reasons	Number	Percent
Not enough space ¹	122	82.4%
Not maintained ²	5	3.4%
Not near enough ³	5	3.4%
Charging is a bad idea ⁴	4	2.7%
Other ⁵	12	8.1%

¹ This includes “No space”, “No parking area”, and “Crowded”. Specific areas mentioned are Strawberry (7), Mirror Lake (3), Woodland (3), Beaver Mountain (1), Cozy Dam (1), Davis County (1), Fairview (1), Farmington (1), Franklin Basin (1), Kamas (1), Mantua (1), Monte Cristo (1), Sinks (1), Smith More House (1), Soap Stone (1), Timpanogas (1) and Utah County (1).

² This includes “Needs improvement”. Specific area mentioned is Mirror Lake (2).

³ This includes “Not high enough”. Specific area mentioned is Heber (1).

⁴ This includes “Not worth charging”. Specific areas mentioned are Farmington (2), Fairview (1), Soap Stone (1), Strawberry (1), Tony Grove (1) and Woodland (1).

⁵ This includes “Bad” and “Could be better”.

Other comments

Comments for “Not enough space”

- No space if you get there late. (5)
- Not enough space during weekend (5)
- Need different spaces for motor homes (3)
- Not enough space especially when snow is good (1)
- Insufficient parking area is one of the worst things in Utah. (1)
- Fishermen get the space in Strawberry (1)
- Need something near Lake Creek near Heber (1)

Comments for “Other”

- Forest Service bothers us for parking in some places. (1)
- Private guy charges, but the place got smaller than when the public utility handled it. (1)

Plowing at trailheads in Utah

Reasons	Number	Percent
Could be better ¹	21	43.8%
Not often enough	18	37.5%
More area	6	12.5%
Other ²	3	6.3%

¹This includes “Poor”, “Rough”, “Don’t do anything” and “Do a better job”. Specific areas mentioned are Black Smith Fork (1), Clearland (1), Cozy Dam (1), Kelly Canyon (1), Nebo (1) and Temple Fork (1).

²This includes “Bad”. Specific area mentioned is Monte Cristo (1).

Other comments

Comments for “Other”

Don’t do it properly for size of trailers. (1)

Some days are good, others aren’t so good. (1)

Restrooms at trailheads

Reasons	Number	Percent
Not enough ¹	61	70.9%
Not maintained well ²	18	20.9%
Other ³	7	8.1%

¹This includes “None”, “Need more” and “Not available”. Specific areas mentioned are Scofield (2), Soap Stone (2), Strawberry (1), Tony Grove (2), Clearland (1), Fairview (1), Guardsman Pass (1), Mantua (1), Monte Cristo (1), Payson Canyon (1), Wolf Creek (1) and Woodland (1).

²This includes “Not clean” and “Lack of facilities”. Specific area mentioned is Wolf Creek (1).

³This includes “Bad”. Specific area mentioned is Franklin Basin (3).

Other comments

Comment for “Not enough”

Need restrooms 20-30 miles in. (1)

Comments for “Other”

No heat. (1)

Snowed in and hard to use. (1)

Stock with toilet paper more often. (1)

Need to shovel around restrooms in Franklin Basin. (1)

Often damaged from vandalism in Franklin Basin. (1)

Garbage facilities at trailheads

Reasons	Number	Percent
Need more ¹	94	92.2%
Not maintained ²	7	6.9%
Other ³	7	1.0%

¹This includes “None” and “Not available”. Specific areas mentioned are Beaver Mountain (2), Franklin Baisn (2), Bear Lake (1), Guardsman Pass (1), Logan (1), Monte Cristo (1), Nebo (1), Payson Canyon (1), Providence (1), Scofield (1), Sinks (1), Soap Stone (1), Tony Grove (1), Twelve Mile Canyon (1), Wolf Creek (1) and Woodland (1).

²This includes “Always full”.

³This includes “No better” and other.

Information stands at trailheads

Reasons	Number	Percent
No information ¹	76	74.5%
Need better maps ²	17	16.7%
Other ³	9	8.8%

¹This includes “No map”, “Not available”. Specific areas mentioned are Beaver Mountain (2), Franklin Baisn (2), Mirror Lake (2), Monte Cristo (2), Nebo (2), Sinks (2), Tony Grove (2), Alpine Loop (1), Daniel Summit (1), Kamas (1), Millers Flat (1), Mule Hollow (1), Payson Canyon (1), Twelve Mile Canyon (1), Vernal (1), Wolf Creek (1) and Tony Grove (1).

²This includes “More information”.

³This includes “No better” and other.

Other comments

Comments for “No information”

- Could have more on the groomed trails. (1)
- Poor information in northern Utah. (1)
- Lot of people get lost. (1)

Comments for “Need better maps”

- They don’t post laws and don’t provide detailed information on trails. (1)
- Need more information on grooming and on area in general. (1)
- Post conditions, better information and keep updated on closures. (1)
- Do better designating wilderness in Tony Grove. (1)

Comments for “Other”

- Couldn’t get to it - too much snow. (1)
- Need a packet of information on trail sent out. (1)
- Need to show side routes, not just main area. (1)
- Other states have better information such as trail markings. (1)

Trail grooming in Utah

Reasons	Number	Percent
Not often enough ¹	80	50.6%
Could be better ²	74	46.8%
Other	4	2.5%

¹ This includes “Seldom done” and “Not done”. Specific areas mentioned are Franklin Basin (1), Kamas (1), Monte Cristo (1), Payson Canyon (1), Southern Utah (1), Strawberry (1) and Twelve Mile Canyon (1).

² This includes “Poor”, “No good job” and “Rough”. Lake Creek (2), Alpine Loop (1), Beaver Mountain (1), Cedar Mountain (1), Monte Cristo (1), Payson Canyon (1), Strawberry (1), Tony Grove (1), Uintah Basin (1), Vernal (1) and Woodland (1).

Other comments

Comments for “Not often enough”

- Charge more if you need to. (1)
- Pay lots of money and it’s never groomed. (1)
- Do it Thursday night. (1)
- Groom at least daily.
- Need more often than 3 times per week. (1)
- Once a week is not enough (1)
- Idaho is great. (1)
- Need to be groomed more often to maintain trails . (1)
- One day kills trails. (1)

Comments for “Could be better”

- Compared other states (Idaho or Wyoming) poor. (6)
- For money spent, money isn’t put back into maintaining trails. (1)
- They quit early and don’t do it enough for the use the areas get. (1)

Comments for “Other”

- Don’t start early enough. (1)
- Extend miles. (1)
- Needs schedule posted or otherwise available somewhere. (1)
- Trails aren’t worth riding. (1)

Number of trails

Reasons	Number	Percent
Need more trails ¹	46	83.6%
Closing some trails	8	14.5%
Other	1	1.8%

¹ This includes “More marked trails”, “More groomed trails” and “More loop trails”. Specific area mentioned is Payson Canyon (1).

Other comments

Comment for “Other”

Number of trails is good, but there is no place to park except on the road which breaks the law.(1)

Variety of trails in the state

Reasons	Number	Percent
Need more variety ¹	19	73.1%
Other	7	26.9%

¹ This includes “Not enough”. Specific areas mentioned are Uintah Basin (1) and Southern Utah (1).

Comments

Comments for “Other”

- Need trails to remote areas. (1)
- Off road trails. (1)
- Shrinking because of conservation efforts. (1)
- Some trails don’t go anywhere. (1)
- Too many closures going on. (1)
- Wider range. (1)

Availability of maps

Reasons	Number	Percent
Hard to find ¹	41	48.2%
Need more maps ²	32	37.6%
Not good	7	8.2%
Other	5	5.9%

¹ This includes “Don’t know where to find”. ² This includes “More access to maps” and “More availability”.

Other comments

Comments for “Hard to find”

- Can’t buy locally. (1)
- Can’t even get them at dealerships. (1)
- Tried to reorder from the state in September, but have not yet received any. (1)

Comments for “Need more maps”

- Lot of people get lost because it’s not there. (2)
- More accessible maps at snowmobile shops. (1)

Comments for “No good”.

- More details. (3)
- Forestry Service maps are bad-way under detailed, trail markings are not clear. (1)

Comments for “Other”

- Maps need to have GPS. (1)
- Need some parking facilities. (1)
- Not easily come by if you’re beginner. (1)
- Used to be free. With amount paid should be free. (1)

Law enforcement on trails

Reasons	Number	Percent
Need more	12	30.8%
Never seen	11	28.2%
Need less	5	12.8%
Rude	5	12.8%
Other ¹	6	15.4%

¹Specific area mentioned is Cedar City (1).

Other comments

Comment for “Need more”

Need more to take care of drunks. (2)

Comments for “Rude”

They just harass people. (1)

They pull people over. (1)

Comments for “Other”

The officers should be more friendly and approachable. (1)

They are unhelpful and only check license and registration. Drive new snow machine and new snow gear. (1)

Don’t inform us new rules and regulations. (1)

Waste of money. (1)

Wants police to get out on sleds instead of just sifting at trail heads checking fogs. (1)

Q21: Experience Conflict with Other Snowmobilers or Recreationists

Characteristic	Number	Percent	
Had conflicts with other snowmobilers or any other types of recreationists	Yes	46	12.7%
	No	316	87.3%
If yes, who?			
X-country skiers ¹	20	43.5%	
Snowmobilers ²	15	32.6%	
Skiers ³	4	8.7%	
Drinkers ⁴	2	4.3%	
Back-country skiers	1	2.2%	
Four-wheelers ⁵	1	2.2%	
Tour guides ⁶	1	2.2%	
Land owners ⁷	1	2.2%	
Rental machines ⁸	1	2.2%	

¹ Specific areas mentioned are Strawberry (3), Franklin Basin (2), Tony Grove (2), Guardsman Pass (1), Beaver Creek (1), Fairview (1), Mirror Lake Highway (1), Monte Cristo (1), Sinks (1), Snake Creek (1), Soap Stone (1), Uintah (1), Whitney (1) and everywhere (1).

² Specific areas mentioned are Monte Cristo (3), Cascade Springs (1), Cozy Dam (1), Uintah (1), Mirror Lake (1) and Soap Stone (1). ³ Specific area mentioned is Providence (1). ⁴ Specific areas mentioned are Monte Cristo (1) and Soap Stone (1). ⁵ Specific area mentioned is Alpine Loop (1). ⁶ Specific area mentioned is Guardsman Pass to Homestead (1). ⁷ Specific areas mentioned are Guardsman Pass (1) and Lake Creek (1). ⁸ Specific area mentioned is everywhere (1).

Conflicts mentioned

Conflicts with x-country skiers

- X-country skiers didn't move out of their way. (6)
- Skiers mad or irate when snowmobilers go by. (3)
- They yelled at. (2)
- They are rude and don't respect rights of snowmobilers. (1)
- They drove by on the trail and swung their poles at us. (1)
- They didn't get along. (1)
- They got angry and pulled out a hand-gun. Then they got arrested. (1)
- They don't like snowmobilers. (1)
- Bad attitude. (1)
- They told them that they shouldn't tear up the snow. (1)

Conflicts with snowmobilers

- Going too fast on the trail. (3)
- Drunk and harassed them. (2)
- Littering and asked to pick it up. (2)
- Disrespectful attitude. (1)
- Another snowmobiler thought he had run into his sled. (1)

- People throwing trash. (1)
- Didn't like him having 4-wheeler on the snow. (1)
- Old man not minding own business. (1)
- Drink and drive recklessly. (1)
- Stopping in bad places (big group). (1)
- People who are showing off which could create dangerous problems. (1)

Conflicts with skiers

- In their way on a hill. (1)
- They ruin trails. (1)

Conflict with back-country skiers

- People are in back-country and don't know what they are doing and get in trouble. (1)

Conflict with four-wheelers

- Tearing up trails, drinking alcohol and rude. (1)

Conflict with tour guides

- Bad etiquette by people renting. (1)

Conflict with land owners

- No marked private property. (1)

Conflict with rental machines

- They don't know what they are doing. (1)

Q22: Know Before You Go Program

Characteristic	Number	Percent
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Familiar with “Know Before You Go” program	Yes	153	41.6%
	No	215	58.4%
If yes, level of satisfaction <i>(Mean=3.09)</i> ¹	Very satisfied	19	13.1%
	Satisfied	91	62.8%
	Dissatisfied	6	4.1%
	Very dissatisfied	1	0.7%
	Heard of but no personal experience	28	19.3%

¹ Mean is based on a scale where 1=Very dissatisfied, 2=Dissatisfied, 3=Satisfied, 4=Very Satisfied.

The reason if dissatisfied or very dissatisfied with the program

An adult could teach the same stuff. Also friends kids can't snowmobile it if they haven't taken the class.

(1)

Can't get out-of-state grandchildren through a safety program in a short amount of time to make them safe and law abiding in Utah. (1)

It isn't in hands of those who need it. (1)

Too much money spent on this program to teach common sense stuff.(1)

Took 2 years to get thorough program so she was 16 by the time she completed. They are not very accommodating about setting up convenient test times. (1)

Wants one system license to cover all these sports. (1)

General Comments about Snowmobiling in Utah¹

Comments	Number	Percent
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Regulation/restriction related		96	35.6% of total comments
	Closing of snowmobile areas ²	(83)	-
	Regulation	(13)	-
Facilities/services related		80	29.6 %
	Trail grooming ³	(22)	-
	Parking space ⁴	(17)	-
	Facilities ⁵	(16)	-
	Information ⁶	(9)	-
	Law enforcement ⁷	(6)	-
	Garbage facilities	(3)	-
	Plowing ⁸	(3)	-
	Availability of cell phone	(2)	-
	Trail management ⁹	(1)	-
	Trail marking	(1)	-
Snowmobile areas related		24	8.9 %
	Getting crowded ¹⁰	(12)	-
	Need more areas ¹¹	(11)	-
	Better access ¹²	(1)	-
Fee related		7	2.6 %
	Don't like parking fee ¹³	(4)	-
	Don't like trailhead fee ¹⁴	(3)	-
Other recreationists related		10	3.7 %
	Skiers ¹⁵	(7)	-
	ATV	(1)	-
	Four-wheelers	(1)	-
	Snowmobilers	(1)	-
Positive comments		10	3.7 %
Don't like interstate registration ¹⁶		7	2.6 %
Want more snow		5	1.6 %

Education program	4	1.5 %
Want better image of snowmobilers	4	1.5%
Want public involvement	3	1.1%
Environmentalist related	2	0.7 %
Environmental concern	2	0.7 %
Other	16	5.9 %

¹ Respondents could make multiple comments. Total 270 comments.

² This includes “Don’t close trails”, “Keep parks open” and “Open more BLM land”. Specific areas mentioned are Yellowstone (11), Franklin Basin (4), Tony Grove (2), Brian Head (1), Cedar Breaks (1), Logan Canyon (1) and Uintah (1).

³ This includes “Trail grooming is not enough” and “Trails are rough”. Specific areas mentioned are Monte Cristo (1), Strawberry (1) and Vernal (1).

⁴ This includes “Not enough parking”. Specific areas mentioned are Strawberry (2), Farmington (1) and Southern Utah (1).

⁵ This includes “Snowmobilers pay a lot, so want better facilities”. Specific areas mentioned are Monte Cristo (1), Payson Canyon (1) and Southern Utah (1).

⁶ This includes “Need information for maps (grooming, plowing and other)”.

⁷ Specific law enforcement comments are drinking (2), Helmet and safety (1) and speeders at Monte Cristo (1).

⁸ Specific area mentioned is Beaver to Puffer Lake (1).

⁹ Specific area mentioned is Monte Cristo (1).

¹⁰ This includes “More people snowmobile”. Specific areas mentioned are Monte Cristo (1) and Wasatch Front (1).

¹¹ This includes “Develop more areas”. Specific areas mentioned are Davis County (1) and Guardsman Pass (1).

¹² Specific area mentioned is Wolf Creek (1).

¹³ Specific area mentioned is Monte Cristo (1).

¹⁴ Specific area mentioned is Monte Cristo (1).

¹⁵ This includes “Skiers should pay to use trails.”

¹⁶ Specific area mentioned is Franklin Basin (1).

Unique comments

Comments about closure

Don’t give all the land to “tree huggers”. Lose revenue to areas when snowmobile is closed down. (1)

Educate people about safety etc. and there would be fewer problems. (1)

Forest Service (F.S.) is unfair. They close areas without voting. Meeting to decide boundaries are thrown out and skiers end up deciding boundaries and F.S. personnel are skiers so go figure. (1)

Problem with F.S. roads for no reason and don't explain why. Aren't intelligent about their recreation planning done there. Aren't very approachable to work with public in the Vernal F.S. office. (1)

Heard rumors of shutting down Uintah because of lynx habitat-this is silly-believe that this is just another excuse for environmentalists to shut them down. (1)

Comments about regulation

Snowmobiles don't have as much impact on forests etc. as other motorized machines and so shouldn't be lumped into same categories ATV's, and shouldn't be as restricted. (1)

Don't let "roadless initiative" affect snowmobiling. New nationwide proposal by president. (1)

Comments about trail grooming

Willing to pay more for a good job. (1)

Groomers cater to places with wealthy cabin owners. (1)

Comments about parking space

Want to see parking space right next to snowmobiling playgrounds. (1)

Comments about facilities

Would like to see a loading/off loading ramp at trailheads.(1)

Comments about information

Want numbers to call to get information on grooming. (2)

Want a packet of trail information with registration. (1)

Need GPS coordinates on maps. (1)

Phone message isn't accurate. (1)

Want to be kept aware of any possible National Forest closures to snowmobilers. (1)

Post survey results on Utah State Parks and recreation web page. (1)

Want information on joining clubs. (1)

Comments for "Getting crowded"

Registering in other states. (1)

Comments about snowmobile areas

Need more variety of trails (2)

In Wolf Creek ranch, put fences and trenches across the trailheads, thus denying access to the public forest land. (1)

Want better access. (1)

Comments about law enforcement

A little too strict with some of the law enforcement. (1)

Cops need to be nicer. (1)

Comments about garbage facilities

Don't put garbage cans out. Encourage people to carry their garbage out with them. (1)

Comments about plowing

Don't plow road 154 from Beaver to Puffer Lake. Snowmobiles don't many it plowed and there is no reason to plow it. (1)

Comment about cell phone

Mirror Lake and Strawberry areas in case of emergency. (1)

Comment about trail management

Monte Cristo trailhead is muddy in the spring, needs gravel. (1)

Comments about fees

Have to go outside my county to ride, but had to pay. (1)

Comments about skiers

Comment about trail management (1)

Why do x-country skiers have more access to sq. acres than snowmobilers? (1)

Close areas for back-country riding entirely inaccessible of areas. (1)

More control x-country skiers, especially on weekends. (1)

Why can't x-country skiers leave the snowmobilers alone? (1)

Comments about ATV

ATV's are bigger problem than the snowmobilers especially the kids. (1)

Comments about four-wheelers

Need to do some surveying of four-wheelers. (1)

Comments about other snowmobilers

People go fast, surprised not more accidents. (1)

Positive comments

Enjoy the sport. (2)

Have been fairly satisfied. (1)

Been pretty good. (1)

Trail system is great, we have more than can be maintained, so don't increase. (1)

When we have snow, Utah is one of the best places to go in the country. (1)

Daniel Summit is better riding than a trip to Yellowstone. (1)

Head groomer out of Wasatch State Park is the best. (1)

Joe Donnel, a groomer for Mirror Lake, is wonderful. (1)

Glad to see the state support the sport. (1)

Comments about education program

Children need safety class. Information on these classes should be mailed with registration.

Classes need to be made more. (1)

Like to see unlicensed kids able to drive with a licensed adult riding with him. (1)

Send him stuff on "Know before you go" program. (1)

Should have all adults go through "Know before you go" program as well as kids. (1)

Comments for "Want better image of snowmobilers"

Too much red tape to be able to snowmobile in Utah compared to Wyoming or Idaho. This discourages people from joining the sport. (1)

All one sees is how dangerous and reckless snowmobile users are. In reality, snowmobiling is primarily a family sport in Utah. (1)

Comments about public involvement

Want to give opinion if further more survey would be conducted. (1)

Want a number to voice opinions. (1)

People need to be involved in clubs and organizations to help support their sport on a political level. (1)

Comments about environmentalist

Keep wilderness people out, we would be fine. (1)

Snowmobiling is a trace sport so I don't understand why the environmentalists are so opposed to snowmobilers. (1)

Comments about environmental concern

Concerned about pollution. Directed to people who have money are destroying land and wildlife. (1)

Start worrying about pollution on freeway, not recreation vehicles. (1)

Other comments

Hauled off snow from Wolf Creek for skiing Olympic x-country skiing venue-really made him angry that they got put on back burner. (1)

Oxygenated gas is more expensive and really hard on the snowmobiles. (1)

Put a noise ordinance on snowmobiles to keep them quiet. (1)

State park pass should work in winter too for snowmobiling. (1)

State should manage all areas and get rid of F.S. (1)

Understand why restrictions are being put on so many areas for snowmobilers. It was the snowmobilers fault for all these problems. It is because of their carelessness. (1)

Usually snowmobile on private land but public land is good when use it. (1)

Want snowmobiling in Antelope island. (1)

Demographics

Characteristics		Number	Percent
Age <i>(Mean=43.41)</i>	18 to 29	45	12.2%
	30 to 39	109	29.6%
	40 to 49	123	33.4%
	50 to 59	44	11.9%
	60 to 69	33	9.0%
	70 and older (84)	14	3.8%
Gender	Male	292	80.7%
	Female	70	19.3%
Number of people in household <i>(Mean=3.97)</i>	1	15	4.1%
	2	76	20.7%
	3	66	17.9%
	4	80	21.7%
	5	60	16.3%
	6	40	10.9%
	7 or over	31	8.4%
Education	Eight years or less	0	0.0%
	Some high school	9	2.5%
	High school graduate, or equivalent	109	29.9%
	Some college or technical school	112	30.7%
	Associate degree	24	6.6%
	Bachelors degree	76	20.8%
	Graduate or professional degree	35	9.6%
Income	Less than \$20,000	3	1.0%
	\$20,000 to 39,999	26	8.4%
	\$40,000 to 59,999	98	31.5%
	\$60,000 to 79,999	74	23.8%
	\$80,000 to 99,999	42	13.5%
	\$100,000 to 119,999	31	10.0%
	\$120,000 or more	37	11.9%

