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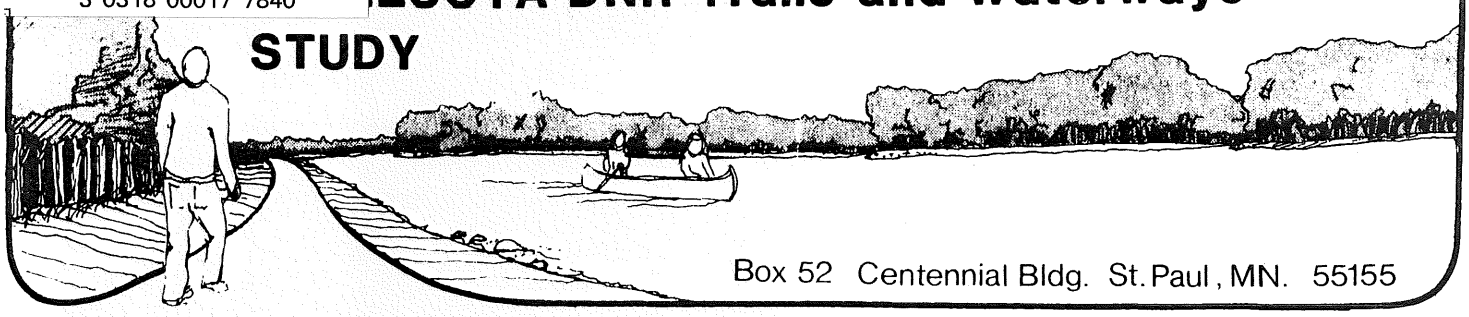

Box 52 Centennial Bldg. St. Paul, MN. 55155

Minnesota Snowmobiler Market Segments and Resource Management Directions: A Qualitative Approach

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Gary Ballman

Study conducted for the
MINNESOTA DEPARTMENT OF NATURAL RESOURCES
TRAILS AND WATERWAYS UNIT

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INTRODUCTION

The study reported here was conducted in furtherance of the Minnesota Department of Natural Resources' mandate to plan, develop and manage trails for recreational use.

In recent years the concept of market segmentation, developed in business several years ago, has begun to be applied to recreational resource management and planning. According to this concept, recreationists in the same activity group are subdivided into a number of smaller groups (segments) such that those in one segment tend to be like others in that segment, but different than those in other segments in terms of some relevant variables. Segments are frequently differentiated on the basis of their preferences for recreation setting attributes, management strategies and desired social/psychological outcomes. In an ideal application of this segmentation approach, management strategies and setting attributes would be tailored to a given segment such that the recreation experience desired by that segment is maximized. This approach assumes that managing the entire resource for the "average" recreationist will meet the needs of only a few.

The general purpose of this study is to utilize the judgement and opinion of a small group of people who are heavily involved in and highly knowledgable about various aspects of snowmobiling to assist in applying this market segmentation approach to snowmobile resource management and planning. Specifically the objectives are to:

1) Hypothesize snowmobile market segments and their design/management preferences;
2) Outline alternative methodologies to validate hypothesized snowmobile market segments and their design/management preferences;
3) Outline alternative methodologies to monitor snowmobile trail use to ascertain if market segments are being served according to intended

goals;

4) Assess the transferability of this approach to other user groups.

METHODOLOGY

Two methods were utilized in conducting this study: a limited review of literature and telephone interviews with a small number of purposefully selected, knowledgeable professionals in the snowmobile industry (broadly interpreted to include representatives from snowmobile manufacturing, publishing, clubs, marketing, associations, research, and management). The literature review on snowmobile market segments is attached as an appendix.

The sixteen individuals interviewed in this study have expertise related to several aspects of snowmobiling. They can be classified as follows:

* Snowmobile manufacturing, marketing and public relations staff: 4 respondents
* Major snowmobile publication editors and publishers: 5 respondents
* Snowmobile club and association officers: 4 respondents
* Snowmobile resource management and research: 3 respondents

During telephone interviews, which lasted from 15 minutes to nearly an hour each (average was about half an hour), their views on various aspects of snowmobiler market segments were probed. Although the specific language used by the interviewer was tailored somewhat depending on the background of the respondent, the basic questions were:

1) Do snowmobiler market segments exist?
2) If so, should DNR manage the resource differently for different segments? How?
3) For each segment identified:
   - Why do people snowmobile?
   - What are the characteristics of each segment in terms of facilities,

environmental setting attributes, management strategies, demographics and any other relevant variable?

- What is the relative size of each segment?
- What are the important trends related to each segment?

An aspect of snowmobile resource use and management that was not initially planned for specific discussion during interviews, but was included in the later ones because it consistently surfaced as being very important, was the role of information in accessing snowmobile resources.

HYPOTHESIZED SNOWMOBILER MARKET SEGMENTS AND THEIR DESIGN/MANAGEMENT PREFERENCES

The first objective of this study was to hypothesize snowmobiler market segments and their design/management preferences. There was general agreement among the 16 persons interviewed that the snowmobiling population is composed of different segments. Although a wide variety of labels was used to describe these segments, probing produced descriptions of two different segments which were fairly uniform on a gross level from one respondent to another. Within each of these two major segments a number of subsegments were less clearly identified. Segments were characterized by use patterns, facility requirements, party characteristics, type of machine used, and to a lesser extent, motivations and demographics.

Segment 1 - Recreational Trail Riders

Segment 1, the largest and most important, will here be generally referred to as "recreational trail riders". Among the labels respondents used to describe these snowmobilers were:

* Recreational trail riders
* Club or socially oriented riders
* Recreational/family riders
* Touring population

* Trail riders
* Social and occassional riders
* Long distance trail riders
* Luxury and economy riders
* Experienced and inexperienced trail riders

Rough estimates by respondents indicate that this segment includes 50% - 80% plus of all snowmobilers. The different labels respondents used to describe this segment suggest that there are a number of distinct subsegments within this class of snowmobilers, i.e., those who primarily like to take long tours, those who like to travel with large groups, etc. Indeed, multivariate analysis of the right kinds of items from snowmobiler surveys would likely reveal distinct subsegments within this large class of snowmobilers which would be useful in management and planning. However three factors make it difficult to provide detailed descriptions and estimates of sizes of these various subsegments of recreational snowmobilers on the basis of information from the interviews. First, most respondents appeared to be used to and satisfied with lumping all recreational trail riders together in one group. For the most part respondents were not used to thinking in terms of discrete subgroups of snowmobilers for management purposes, although their descriptions of snowmobilers clearly indicated they thought subgroups existed and had different setting attribute preferences and experience expectations.

Secondly, there was general agreement among respondents that there exists a great deal of overlap among various subsegments of recreational trail riders. Regardless of the type of snowmobiling a given recreational trail rider usually does or most likes to do, in a given season he may engage in a wide variety of different kind of snowmobiling experiences. The distance, time, location, number in party, type of sled, setting attributes, etc. may differ widely in the

same season.

The third factor which makes it difficult to provide detailed descriptions and size estimates of the various subsegments of recreational trail riders is the fact that respondents generally agreed that subsegments of recreational trail riders desire the availability of the same range of setting attributes (trail length, trail difficulty, type of scenery, opportunity to view wildlife, support facilities, etc.). It is the mix in the way which they utilize this range that characterizes the subgroups. Thus, there was the tendency on the part of respondents to say that the same trail system, if properly developed, could meet the needs of all recreational trail riders. This would be true only if the mix and distribution of attributes in the trail system matched the mix of attribute demanded in the recreational trail rider population.

Based on the interviews conducted in this study, a limited number of priorities can be suggested as means of catering to the various subsegments of recreational snowmobiler. However, isolating and describing the subsegments of recreational trail riders with the kind of detail and reliability necessary for a full implementation of the "managing/planning for segments strategy" will require the anaysis of objective survey data collected from the general snowmobiling population such as that available from the SCORP survey.

Motivations of recreational trail riders

Just as in labeling the different segments, respondents used different language to indicate why these people snowmobile. Three common motivational themes consistently emerged from these descriptions, however:

1. Snowmobiling is simply a "fun", recreational experience,
2. Snowmobiling provides a good opportunity for socializing with friends and family,
3. Snowmobiling provides access to scenery, wildlife and the out-of-doors

during the winter.

The importance of the social aspect of snowmobiling was strongly emphasized by most respondents. In the words of one: "Above all else, snowmobiling is a highly social experience. People who snowmobile together do other things together. They are usually good friends or members of the same family." The importance of this social component was further emphasized by other respondents who noted that, "most trails are laid out and maintained by clubs", "about a third of our readers are club members", and "snowmobiling is almost always done in groups". Snowmobile resource management decisions, therefore, must always be cognizant of the social dimensions of the activity and the implications this has for facility design and management policy. Given that most snowmobiling is done in groups, and that all members of the same group will likely not be just alike in what they most want, in the kinds of machines they are riding, or in their skill level, one implication is that management strategies which provide different options for members of a party are most desirable.

Respondents were not able to say whether or not some recreational trail riders wanted more scenery or wildlife than others, just that they all wanted it a lot. The simple rule of thumb for management then seems to be: Where alternatives exist, all else being equal, choose the alternative which maximizes scenery and wildlife.

Other motivational elements for recreational trail riders mentioned less frequently, usually in reference to a particular subgroup of this segment, include: challenge or thrill, macho image maintenance, and the enjoyment of using machines. These less frequently mentioned motivations also have relevance for providing opportunities for recreational trail riders as will be evidenced in the discussion on facility requirements.

Facility requirements for recreational trail riders

Respondents were nearly unanimous in their views regarding the kinds of trail and support facilities which would best meet the needs of recreational trail riders: an accessible network of interconnected, well maintained, signed and mapped trails and trail systems with periodic "rest stop facilities" where users have clear choices of distances traveled, of returning to the starting point or being picked up at a destination, and which is tied in to the support facilities available in communities, i.e., restaurants, restrooms, gas stations, lodging facilities, etc. Such a system, in the view of respondents, should provide variety and be flexible in preserving the principal of individual choice in that different members of the same party or all members of different parties could have different experiences in the same network. The provision of "special use areas" where prescribed types of snowmobiling are emphasized was generally rejected by respondents.* A good network of trails containing variety would allow recreational snowmobilers to shape their own unique experience, in the view of respondents.

Descriptions of the different subgroups of recreational trail riders which respondents described provide some management guidance as to the physical characteristics of these trail systems. But because of factors already noted, i.e., difficulty in respondents articulating discrete subsegments, overlap among subsegments and similarity in the desired range of setting attributes, and because, in this investigator's opinion, objective, quantitative data from general snowmobiler population surveys should be used to fine-tune subsegment descriptions, attributes of different aspects of these interconnected systems rather than subgroups of recreational trail riders themselves will be characterized. This is not meant to imply that subsegments of recreational snowmobilers do not exist

* Exception was made, however, in reference to certain kinds of Segment 2 Snowmobilers.

and cannot be managed for, but that the level of data resulting from these interviews is simply not adequate to provide reliable, detailed and complete guidance on what the specific mix of setting attributes should be.

Variables on which respondents appear to agree that all recreational trail riders, regardless of the specific subgroup, have the same preferences include:

* trail conditions,
* trail marking and mapping,
* variety and options,
* opportunity to view wildlife and high quality scenery, and
* interconnected loop configuration.

Variables where there appear to be substantial differences among subgroups of recreational trail riders include:

* trail difficulty,
* distance snowmobiled,
* speed,
* party size, and
* support facilities requirements-differ depending on distance snowmobiled but generally the same for the same length outing.

A fuller discussion of some of these variables will assist in providing management/planning direction.

Trail conditions: Every respondent said that well maintained trails are of utmost importance. To the extent possible, all trails should be kept free of moguls, be 12 - 14 feet wide (in the opinion of some respondents) and be free of obstacles. Respondents noted that good trail conditions are particularly important on long trips.

Trail configuration and length: An interconnected, variable length loop configuration starting and ending at the same point was thought most

desirable. Recognizing that distance traveled in a given time depends among other factors on trail condition, type of machine, skill of driver and number in party, a mix of at least four types of distance options should exist:

* shorter outings of 1-3 hours riding time,
* all day outings which include four or more hours riding time (could easily be 100 miles),
* overnight outings which entail one night spent away from point of origin,
* overnight outings which entail as many as four or five nights away from home (could be day trips originating from the same resort/motel or a single loop-like ride where different lodging facilities are used on successive nights).

Based on a top end range of speed of 20-40 m.p.h. for the majority of the recreational trail riders, and taking into consideration terrain, usual snow conditions, land ownership patterns, local maintenance capabilities and other relevant factors, appropriate distances can be calculated for each option. Use of objective data from snowmobiler surveys would be desirable in associating distances with these four time frames.

The consensus among respondents was that most snowmobiling today is either the 1-3 hour or the all day variety (4 hours or more). However, overnight trips are becoming more popular and several respondents indicated there is a definite growing need for more overnighting capability, more interconnection of systems, and longer trails in Minnesota's overall snowmobile trail system. Improved machines, a search for variety and the growing tendancy of people to take "snowmobile vacations" gives impetus to this demand.

According to respondents, trails providing different distance alter-

natives should be interconnected so that a snowmobiler has distance options without having to load the sled and trailer to another location. Given the mix of users likely to be found in the same party, such options permit the "socially oriented" motivations of each party member to be satisfied as well as the differing "recreational" motivations. A prototypical example alluded to by three of the respondents is the case where, on the same outing, the husbands and older children in a group want to do 80 miles in a day but the wives and younger children want to do only 40 miles. It was suggested that construction of relatively short trail segments between existing trails could accomplish this network trail objective.

Support facilities: Adequate support facilities were viewed as very important by all respondents. Referred to here are: parking/unloading areas, rest rooms, rest areas out of the wind at periodic locations along trails, restaurants, lodging, and gas stations. Some type of rest stop facility appears to be desirable about every hour. The provision of periodic "challenges" (steep hills, flat areas where machines can be opened up), possibly in association with rest areas,was also suggested.

Many respondents emphasized the importance of utilizing small trail segments to connect main trail systems to the support facilities existing in nearby towns. An added benefit of linking small towns to snowmobile trails which was noted by some respondents is the positive economic impact this would have on local economies.

Information systems-trail markings, maps, informational brochures, trail condition reporting mechanism: Reliable, current, usable, widely disseminated information surfaced as a critical element for successful use of any trail or trail system. Well-marked trails were seen as absolutely essential in meeting the recreational trail rider's needs. Many respondents referred to

the spotty nature of trail markings in the state wherein some areas are very well marked and others are not. It was noted that poor trail marking is a disincentive to snowmobile in areas people are not familar with. Good signing regarding the location of support facilities was included as a need. Although respondents cited the availability of many useful snowmobile maps in the state, they generally felt that better, perhaps more standardized, maps are needed to meet the needs of recreational trail riders. A "funneled" mapping system was suggested by some respondents wherein there is a state map containing general information and a broad picture of the state's trails; regional maps with an additional degree of detail and specificity; and local trail maps detailed enough to use for actual trail riding. This is similar to the Minnesota Bikeways mapping system developed by MnDOT.

Wide dissemination of information about trail locations and conditions was seen as another means of better meeting recreational trail rider's needs, whether they are from Minnesota or other states. Close cooperation among various state agencies and local clubs was thought necessary to affect this. All respondents queried on this point agreed that the lack of information on the part of snowmobilers about the location and nature of existing trails is the chief contributor to over use of some areas while others go under used. In addition to maps, one respondent suggested that a toll free number be used to give snowmobilers snow condition reports in various regions of the state.

Segment 2 - High Performance Riders

The second segment clearly identified by most respondents will be referred to as "high performance riders". Labels used to describe this segment included:

* High performance riders

* Power people
* Racers
* Lake racers

As the names suggest, this segment includes people who are primarily interested in speed and performance of the snowmobile. They are most likely to be males in the early 20-mid 30 age range. Their party size tends to be smaller than that of the recreational trail riders. Getting from point A to B as quickly as possible and conquering the most difficult hills or trails are reported to be the primary objects of this segment.

Many respondents thought there were two distinct subgroupings of high performance riders: those who were really serious about racing and frequently entered actual competitive events (true racers), and those who just like to go fast and/or far but don't generally enter official competitive events (thrill seekers). Estimates of the sizes of these two groups ranged from 10-20% for the thrill seekers and 1-5% for the true racers. There is likely some overlap between segment one and two in that segment two riders probably spend some time (between sprints or with the family) when they engage in typical recreational trail riding and, to a lesser extent, vice versa.

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Motivations of High Performance Riders

The primary motivation of this group is obvious: achievement. It is expressed in the form of the highest speed, the lowest time, traveling the greatest distance, climbing the highest hill, etc. The social motivation is also highly important, however, because achievement is usually gauged against peer group standards.

Facility Requirements of High Performance Riders

The consensus among respondents was that special facilities or opportunities for this group should not be provided. As one respondent said, "They

have no business on recreational trails." It was generally felt that they will find areas on their own (usually lakes) where they can "open it up", or will participate in official races in areas that have been especially prepared (temporarily) for racing. It was also pointed out by some respondents that by simply going fast on a recreational trail and/or choosing more difficult trails, high performance riders can vary their challenge and thus their achievement. The two reasons cited for not designating areas as high performance areas were: managerial liability and the potential negative image which could develop for an area if it became known only as a high performance haven.

Segment 3 - Utilitarian Riders

A group mentioned by a very few respondents is the utilitarian segment: those who use a snowmobile primarily for transportation in rural areas. This could be for work or in pursuit of another form of recreation such as ice fishing or hunting. No estimate could be made of its size but it is thought to be small. Because of the utilitarian nature of this snowmobiling, respondents who identified this segment saw no need to give special consideration to providing snowmobiling opportunities for it.

ALTERNATIVE METHODOLOGIES TO VALIDATE HYPOTHESIZED SNOWMOBILE MARKET SEGMENTS AND THEIR DESIGN/MANAGEMENT PREFERENCES

The second objective of this study was to outline alternative methodologies to validate the hypothesized snowmobile market segments and their design/management preferences. Two alternatives will be outlined.

The first method would entail conducting a survey of the general snowmobile population (or utilizing existing data from such a survey i.e., SCORP) to collect data on management/design preferences and other pertinent information such as use patterns, demographics and motivations. Based on responses to these items, cluster analysis could then be used to "type" or group respondents into

separate homogeneous groups having different intergroup characteristics. In order to validate the existence of the two major hypothesized segments and the subsegments within each, such an analysis should show one large group of respondents whose motivational, preference and use profile is similar to that described for the recreational trail rider segment, and another, smaller group with a profile similar to that described for the high performance segment. Within each of the two major groups we would expect to find subsegments of individuals who share many common characteristics, but who differed on some. For example, all recreational trail riders might be found to have about the same level of desire for natural scenery and companionship of others, but one subsegment might also desire longer trips and another shorter trips; one subsegment might desire only day trips while another generally desires overnights tours, etc. The preferences and relative sizes of each segment identified could serve as guides to the mix of setting attributes which should exist in the state's snowmobiling resources to meet the needs of various segments.

A second methodology to validate the hypothesized snowmobiler market segments and their preferences is outlined by the following scenario:

1. Assemble a panel of"experts" similar to those who were interviewed in this study.
2. Utilizing a focused group approach, reach a consensus on a prespecified, reasonable number of snowmobiler types in terms of their management/design preferences on variables which management and planning can realistically control.
3. Identify snowmobiling areas in the state with the characteristics each segment is hypothesized to want.
4. Publicize each area as the ultimate for the kind of snowmobiling that segment is hypothesized to want.

5. Interview people using each area to collect information which would enable each user to be typed as being in one of the hypothesized segments and ascertain each user's degree of satisfaction with the area in question.
6. A high degree of satisfaction among users of a given hypothesized type in their hypothesized type area, and conversely, lower degrees of satisfaction among users not in their hypothesized type setting would constitute validation of the market segments and management/design preferences.

ALTERNATIVE METHODOLOGIES TO MONITOR SNOWMOBILE TRAIL USE TO CHECK MANAGEMENT EFFECTIVENESS

A third objective of this study was to outline alternative methodologies for monitoring snowmobile trail use to ascertain if segments are being served according to intended management goals. One means of doing this would be through the administration of periodic general snowmobiler population surveys. Analysis of this data should segment respondents and ascertain their satisfaction with available snowmobiling opportunities.

Another, more effectual way, would be to follow a scenario similar to the second one suggested for validating the hypothesized segments. This methodology would entail:

1. Identifying the access points to the snowmobile trails and trail systems in the state or convenient monitoring points on the major thoroughfares on trails with extremely dispersed or distant access points.
2. Developing a fairly clear picture of the experience options reasonably available through each access point or thoroughfare monitoring point.
3. Conducting periodic on-site surveys of snowmobile trail users at representative monitoring points to collect the information necessary to: a) "type" each user as belonging to a certain segment, b) ascertain his knowledge of experiences available from the access/monitoring point, and c) ascertain

his degree of satisfaction with that general location and associated trail system. The instrument used should be brief and simple - it's cold out there. Brief descriptions of a few types of snowmobiler segments and of alternative bundles of setting attributes including one describing the monitoring point/trail area being used could be assembled. The respondent could select one of the alternative snowmobiler segment descriptions as being "most like him", one of the area descriptions as being most like that particular area, and one (maybe the same one) as being his most desirable type area. This would "type" the snowmobiler, give an indication of the accuracy and extent of his information about that area, and provide a basis for matching segments with settings. His satisfaction could be approximated by questioning him regarding the extent to which the snowmobiling areas being used met his needs at that particular time. Other instrument formats could also be used.

4. Conducting periodic general snowmobiler population surveys to ascertain the current mix and size of snowmobiler segments. Review the nature and mix of snowmobiling opportunities available in the state to verify that a reasonably good match exists between opportunities desired by each segment and opportunities available to each segment.

Regardless of the method utilized to check management effectiveness, good communications on a regular basis among regional and central office DNR staff with snowmobile trail-related responsibilities and active snowmobilers, possibly through snowmobiler organizations, would be an asset.

TRANSFERABILITY OF APPROACH TO OTHER USER GROUPS

The final objective was to evaluate the transferability of the "segmenting on the basis of limited expert opinion" approach as used here to other user groups. As with any research method, this one has limitations and advantages.

A first limitation is that, regardless of how many knowledgeable people are interviewed, there still will remain gaps in their perceptions of the user group as a whole. The fact that they are highly knowledgeable about snowmobiling in itself means they are different than most users. These differences are likely to be reflected in the views they express. Interviewer bias can also be a problem. Another limitation is that reliable quantified data on such important specifics as preferred length of trail, average number in party, number of trips of certain distances, etc. for the entire population or subgroups of snowmobilers are difficult to establish using this method. Detailed descriptions of segments are, therefore, difficult to arrive at.

The advantages of this approach balance out its disadvantages in many respects. It is relatively fast, cheap and easy to execute compared to major population surveys. It can provide a framework and direction for analysis of quantitative data. It also has the advantage of helping to check the "planning/management paralysis syndrome" wherein professionals charged with the responsibility of planning and managing recreational resources hesitate to take decisive action because "all the data are not in", "all users might not be satisfied", "the analysis of objective data may not be complete", etc. In this sense, segmenting by limited expert opinion helps legitimize and reassure management action.

An approach to segmenting user groups preferable to either the purely qualitative or the purely quantitative would be a combination approach. Expert opinion could be used to broadly and generally define segments and their preferences as was done through these interviews. They could probably even be better specified through the use of a focused group where the experts would have the opportunity to interact and reach a consensus. In this way a general thrust or direction for quantitative data anlaysis would be provided. Analysis of quantitative sur-

vey data could then be used to fine-tune or modify segment definitions.

This approach would be as applicable to other user groups as it is to snowmobilers. All recreational user groups have "experts" associated with them through clubs, publishers, manufacturers, resource managers, researchers, etc. The specific methods and ease of tapping these "experts" may, however, vary from one user group to other. But for other user groups, just as for snowmobilers, successful implementation of a "managing/planning for segments" strategy requires aggressive, decisive leadership on the part of DNR, a high level of intra and interagency cooperation, and meaningful involvement of the several user groups. Without this, very little is likely to come out of the spout in the end.

TRENDS

Although respondents felt snowmobiling has generally stabilized compared with the rapid growth years, some trends were mentioned. With the exception of the first set of trends which was widely discussed, the following trends were mentioned by one or more of the respondents but were not widely enough discussed to be treated as trends about which there is a consensus:

* People are taking more longer and overnight snowmobile tours and integrating them into winter vacations. Several respondents mentioned this trend. It is also substantiated by survey data. This trend is consistent with what would be expected to happen as a recreational activity progresses into a maturation stage. The search for variety is growing. People are tiring of relying primarily on the trails in their home areas. The appreciation and expectation of quality trails is growing also. These too are consistent with the maturation stage of snowmobiling.
* Industry spokesmen suggest the snowmobile market will grow at about 5 percent per year in the short run.

* Younger snowmobilers are not coming into snowmobiling at a very rapid rate. Therefore, the average age of snowmobilers may begin to increase.
* Racing has declined in recent years. But it was suggested there may be a resurgence of club sponsored citizen races in the next few years.

SUMMARY AND RECOMMENDATIONS

This study has attempted to utilize the opinion and judgement of a small number of "experts" on snowmobiling to assist the Minnesota Department of Natural Resources in implementing a "managing and planning for snowmobiler segments" strategy. Two distinct and relevant snowmobiler market segments have been identified: recreational trail riders and high performance riders. Additional subsegments within these major segments have been less clearly identified. Alternative methods for validating the hypothesized snowmobiler segments and their preferences, and for monitoring snowmobile trail use to check management effectiveness have been outlined.

Based on a synthesis of the views expressed by respondents in this study and a consideration of study objectives, the following recommendations are made:

1. Snowmobile resources should be managed primarily for the various segments of recreational trail riders. This can best be done by working toward an interconnected network of groomed, variable length loop trail systems where options exist for: one to three hour outings; four hour to all day outings; one night outings; and multiple night outings. The precise number, size and characterization of recreational trail rider segments and other segments, as well as their unique preferences and needs, should be ascertained through a mixture of:
   * analysis of quantitative survey data from the general snowmobiling population, such as was collected in the SCORP surveys, in a manner which considers the distributions and interrelationships rather than just the

average user preferences and characteristics,

* communication and consensus building exercises among DNR management, planning, and research staffs and industry experts (as broadly defined earlier in report), perhaps through focus group interviews, and
* judgement by DNR professional staff regarding what the realistic management and resource capabilities are.

2. In developing the recommended network of trail systems, top priority should be given to expanding what is already in place by constructing strategically located trail segments which:
   * link together existing trails and trail systems, and,
   * link existing trails with support facilities available in communities and at lodging and resort facilities.

   This will help meet the expressed desire for longer trails and a wide variety of options.
3. All other factors being equal, trails should maximize variety and the opportunity for viewing wildlife and high quality scenery.
4. Before extensive development of new trail segments is undertaken, existing trails should be well groomed, mapped and marked.
5. A standardized, "funneled" mapping system should be developed consisting of:
   a. A state map with a gross level of detail,
   b. Regional maps with finer detail regarding trail locations, area characteristics and support facilities, and,
   c. Local maps with sufficient detail for actual trail riding.

   The widest possible distribution should be given to these maps and other snowmobiling information.
6. As a step toward implementation of these recommendations, the Department of Natural Resources should provide aggressive leadership in further building

cooperative working relationships with snowmobile clubs and associations, and with the Minnesota Tourism Bureau for the specific purpose of developing and disseminating snowmobiling information.

7. Depending on available agency resources, one of the methods outlined should be used to validate and fine-tune the hypothesized market segments.
8. Depending on available agency resources, one of the methods outlined should be used to check management effectiveness.
9. If this method of utilizing limited "expert" opinion to assist in managing/planning for specific user segments is applied to other user groups, a focus group interview should be planned to supplement telephone interviews with individual respondents.

APPENDIX A: LITERATURE REVIEW

A limited literature review was conducted for the purpose of ascertaining the extent to which work has been done on segmenting snowmobilers. Results of the literature review indicate that substantial work has been done on segmenting other types of recreationists, i.e., fishermen (Driver and Knopf, 1976), campers (LaPage, 1969), hunters (Brown et al, 1977) water-based recreationists (Ditton et al, 1975) wilderness recreationists (Brown et al, 1979), skiers (Ballman et al, 1981, Mahoney,1979). There appears to have been very little work done on segmenting snowmobilers.

Nearly all snowmobiler research has been descriptive in thrust reporting snowmobiler characteristics, preferences, use patterns, etc. without attempting to segment the population into discrete subgroups or has compared snowmobilers as a group with other recreationists (Knopp and Tyger, 1973, Leatherberry, 1976 and 1980, Miller Research Services, 1982, Parent, 1979, Yankelovich, Skelly and White, 1980). Much of this work confirms the validity of the three primary motivational themes which respondents in this study reported as the major motivators of snowmobilers: socializing, nature/scenery/out-of-doors, and "fun" recreational experience. In a study comparing motivations and setting attribute preferences of snowmobilers and cross-country skiers, Allan (1978) found that at least two-thirds of the snowmobilers interviewed rated these three items as "very important", the highest rating on his 7-point scale. Most of the other respondents were also positive to varying degrees. Similar results were reported by Sauer and McDowell (1975). Exercise and skill (achievement) are other motivations commonly occuring in the literature.

Regarding management/design preferences, the literature also confirms the general validity of what respondents reported (Chub, 1971, Holecheck, 1973, Leatherberry, 1976). Network loop configurations, variety, support facilities,

distance options, trail mapping and marking, scenery and wildlife are all indicated to be positive characteristics. But again, segmentation into discrete segments was not done. This does not mean that these studies are not valuable for gaining insight into snowmobile resource management and planning - they are very useful for this purpose.

One of the two studies reviewed which actually segmented snowmobilers into discrete subgroups was reported by McLaughlin and Paradice (1980). They segmented cross-country skiers and snowmobilers into four types of recreationists on the basis of motivational profiles which measured four motivational dimensions: general nature experience, exercise/physical fitness, being with similar people and privacy. The types and their motivational profiles were as follows:

Type 1 (78%) - all four dimensions strongly add to the experience.

Type 2 (13%) - nature and exercise moderately added while being with similar people and privacy added slightly.

Type 3 (6%) - exercise added strongly, being with similar people moderately added and nature and privacy slightly added.

Type 4 (3%) - nature and similar people moderately added while exercise and privacy slightly added.

They did not then further describe these four types but instead focused their analysis on a comparison of snowmobilers and cross-country skiers. Rough similarities can be hypothesized between Type 1 and the recreational trail riders respondents described in this study, and between Type 3 and the high performance riders. Beyond that, however, this segmentation provides limited additional insight into different needs/preferences of various types of snowmobilers.

Stynes and Szcodronski (1980) segmented snowmobilers into three groups, early adopters, middle adopters and late adopters, for the purpose of testing

selected diffusion of innovations hypotheses. They found no important differences among the three groups.

In conclusion, sufficient research segmenting snowmobilers into discrete market segments has not been done to provide useful management/planning guidance. Additional segmentation analysis of existing or new data is needed. There does exist, however, much research information on snowmobilers, particularly the Minnesota SCORP data, which can provide guidance for snowmobile resource management and planning.

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