Information on recreation and tourism in spatial planning in the Swedish mountains

– methods and need for knowledge

Tuomas Vuorio
BLEKINGE INSTITUTE OF TECHNOLOGY

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Blekinge Institute of Technology
S-371 79 Karlskrona, Sweden
http://www.bth.se
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Abstract

The Swedish mountain region makes up about one third of the country but includes less than 2 per cent of the population. It stretches for over 1000 km and includes 90 per cent of the total nature conservation area in Sweden. With its 8000 km of hiking trails and 100 mountain huts and lodges it is one of the most important areas for outdoor recreation and tourism - visited by one fourth of the Swedish adult population every year. With the current decline of the extractive industries tourism has become an important development issue in the area.

Effective spatial planning in the mountains presupposes good information on tourism and outdoor recreation. Municipalities need adequate data to base planning on. One precondition for more effective information supply to spatial planning is research and development of methods. It must be possible to follow developments, predict environmental effects and effects on user attitudes, satisfaction etc.

There are big differences between visitors in the mountains. Their needs and interest in different nature experiences, their tolerance towards crowding and contacts with other users vary a lot. It is important for planning and management to find out which qualities users are looking for and appreciating and to have a clear picture of the variance between different users.

Management of recreation areas is normally combined with conservation and often has two goals: i) to maintain “natural conditions” and ii) to provide recreation opportunities. These two goals will often be contradictory. Resolving this conflict is both a theoretical and practical problem. The discourse within spatial planning differs from the nature conservation discourse. While the nature conservation discourse comes from a tradition of “calculating rationality” and a scientific, central view that points out the foremost values – “national interests”, national parks, world heritage areas – the basis of the spatial planning ideology in Sweden is a conception of local, political decision making. The Swedish planning system with a planning monopoly and veto of the municipalities is in theory a system with deliberative or communicative rationality: the plan is supposed to express citizens’ will and needs expressed through their representatives.

How to provide the planning system with relevant information on different levels, i.e. information that can be used for predicting different reactions to different management actions in order to be able to handle conflicts will be one of the central questions in the thesis. Special attention will be paid to different methods of measuring nature tourism and outdoor recreation.

Self registration combined with satisfactory studies on non participation can give a relatively good synoptic picture of the use of the area. At the same time it is obvious that the non participation varies too much geographically and between different points of time for self registration alone to be used for studying frequencies and patterns of
use. Flight observations carried out as a part of the study in Södra Jämtlandsfjällen (article II) proved to be a good method of studying the patterns of camping. They were also important for conflict analysis and studying divergences. The indirect methods for estimating the total number of visitors have to be calibrated often, which can be difficult (for example number of visitors in a car or a bus). The indirect methods risk missing factors that make it possible to get indications of possible tendencies in the use of an area.

In situations where conflicts exist, it is important that the picture of the present situation is well established and legitimate. This means that both methods and the actors participating in the study have to be experienced as legitimate by all parties taking part in the planning process.

A general conclusion is that there are not any good shortcuts to useful knowledge about outdoor recreation and tourism for planning as a whole, for management or for EIA. Need for predictions is far too big to make indirect data useful alone.

Three studies are presented: i) a national screener study on current tourism patterns in the Swedish mountain region, ii) a case study among the visitors in Södra Jämtlandsfjällen and iii) a case study among the residents in Södra Jämtlandsfjällen.

**Keywords:** Spatial Planning, Outdoor Recreation, Nature Tourism, Visitor Monitoring, Visitors’ Attitudes, Tourism Patterns, Knowledge Supply, Residents’ attitudes, Eco-Strategies
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Preface

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Tuomas Vuorio
Introduction

The Swedish mountain region stretches for over 1000 km and includes 90 per cent of the total nature conservation area in Sweden. The population density is about 1 person per square kilometre (Statistics Sweden 2003). With its 8000 km of hiking trails, 100 mountain huts and lodges and 40 major downhill ski areas it is one of the most important areas for outdoor recreation and tourism in Sweden. The area is visited by one fourth of the Swedish adult population every year. With the current decline of the extractive industries tourism has become an important development issue in the area.

Reindeer husbandry, conservation of cultural heritage and nature, local trade and industry, usage of the natural resources, traditional and local outdoor recreation and tourism are some of the actors in the area that are affected by planning and management. The Swedish mountain region is an area where spatial planning has traditionally been based on natural science basis. Planning in the area sets new requirements for the general information that the county administrative boards are responsible for. The available information is not detailed or adequate enough to be used in planning (see e.g. Alexandersson 2000, Emmelin 1997 and Heberlein et al. 2002). Thus planning for tourism and recreation infrastructure and settlement of conflicts with other forms of land-use becomes difficult. The lack of information influences both perceptions of the existing situation, its problems and opportunities, and hampers the establishing of a common understanding among actors in the planning process. In Scandinavia recreation has earlier been described with the help of existing services and infrastructure and with only little focus on the users themselves (Emmelin 1997, Sievänäen 2001). The visitor studies are most necessary in areas that are visited by a large number of visitors/tourists, because conflicts within outdoor recreation and between outdoor recreation and other land uses most probably occur in these areas (see e.g. Kajala 2001). The need for data will be discussed in article II, chapter 2.

One precondition for more effective information supply to spatial planning is research and development of methods. It must be possible to follow developments, predict environmental effects and effects on visitors’ attitudes, satisfaction etc. Visitors to the mountains are a very heterogeneous group. Their desires and interest in different nature experiences, their tolerance towards crowding and contacts with other users vary a lot. It is important for planning and management to find out which qualities the visitors are looking for and appreciating and to have a clear picture of the variation between them.

Purpose

The purpose of the thesis is to discuss the need for information on outdoor recreation and tourism in the Swedish mountain region for spatial planning. A special focus will be on the different aspects of spatial planning and requirements that it sets for the information supply. An overview of current tourism patterns in the Swedish mountain region will be given. Different methods of studying and monitoring outdoor recrea-
tion and tourism in the mountains will also be discussed. Different interest groups and their needs and role in the mountain planning will be highlighted.

**Methods and sources**

The thesis is based on three studies: i) a national screener survey studying patterns of tourism in the Swedish mountain region, ii) a large visitor study carried out in Södra Jämtlandsfjällen and iii) an inquiry carried out among the residents in Södra Jämtlandsfjällen. Other sources used were national and local statistics and earlier studies carried out in the same areas. The national screener survey was based on telephone interviews of a random sample of Swedish households outside the 15 mountain municipalities. Several methods were used in the visitor study in the Södra Jämtlandsfjällen: self-registration boxes, counting of tents from the air, counting of cars in car parks and a questionnaire sent to a sample of the visitors. The method used among the residents was a mail survey.

The screener study covered the whole season and this was also the case with the residents. The focus was not in other words on a certain season as in the case study presented in article II. The case study of the visitors in Södra Jämtlandsfjällen was carried out during the summer season for several reasons; firstly it was important to be able to be in time with the information on visitors (the lack of information was noticed first in the beginning of the planning process), secondly because the municipalities and the county administration board felt that they had a better knowledge of patterns of use in the winter time, and thirdly because the conflicts during the winter season between different land use forms were experienced as less complicated. At the same time it is clear that even the other seasons would be interesting and important to study, for example early spring when cross-country skiing is still possible but the reindeer are already in the area or the whole winter season due to the conflicts between cross-country skiers and snowmobilers (this has been done by Denstadli et al. 2001).

**Outline of the thesis**

This thesis is based on three scientific papers preceded by an introduction. It also includes appendices. The introduction discusses the theoretical framework of planning and states the purpose of the thesis. The introduction also includes a discussion of outdoor recreation both as a phenomenon and in spatial planning, the right of public access, communicative planning, predicting behavioural responses to plans and management, segmenting visitors with the help of purism scale and the Recreation Opportunity Spectrum (ROS) as a tool for planning and management of recreation areas. Another important question that will be discussed in the introduction is what knowledge and whose legitimacy are needed. In the conclusions the most central questions that the three studies have highlighted will be discussed and concluded.
Different possible directions for further research will also be discussed. Some overlaps of the discussion and the three papers are inevitable because all the three papers have been published separately.

The first paper, *Current tourism patterns in the Swedish mountain region*, was written together with Thomas A. Heberlein¹ and Peter Fredman². It gives an overview of tourism in the Swedish mountain region, with a focus on types of recreational activities and their regionality. The study is based on a national telephonic survey conducted between August and September 1999.

The second paper, *Methods for monitoring outdoor recreation and tourism in large nature areas – the case of Södra Jämtlandsfjällen*, was written together with Lars Emmelin³ and Klas Sandell⁴. It discusses the need for information on outdoor recreation and tourism in spatial planning in the Swedish mountains. Different methods will be presented and discussed. The paper is based on a case study carried out in Södra Jämtlandsfjällen 1999.

The third paper, *Residents in Södra Jämtlandsfjällen: Attitudes toward wind power, national park designation, and tourism development*, was written together with Kreg Lindberg⁵, Jon Martin Denstadli⁶ and Peter Fredman⁷. It presents results from a study conducted in Södra Jämtlandsfjällen and discusses residents’ attitudes toward different planning and management actions.

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¹ Department of Rural Sociology, University of Wisconsin-Madison, USA  
² European Tourism Research Institute, Östersund, Sweden  
³ Department of Spatial Planning, Blekinge Institute of Technology, Sweden and European Tourism Research Institute, Östersund, Sweden  
⁴ Karlstad University, Sweden and FjällMistra, Umeå, Sweden  
⁵ Colorado State University, USA  
⁶ Transportøkonomisk institutt, Oslo, Norway  
⁷ European Tourism Research Institute, Östersund, Sweden
Spatial planning, outdoor recreation, tourism and local participation

Tourism, recreation and leisure are generally seen as a set of interrelated and overlapping concepts. Tourism and recreation are generally regarded as subsets of the wider concept of leisure (see e.g. Jackson and Burton 1999).

Outdoor recreation is administratively part of the nature conservation in Sweden, but is also one form of exploitation of nature (Emmelin 1997). In the Swedish planning and administration outdoor recreation has been seen as synonymous with practising an activity and the meaning of outdoor recreation for the individual has seldom been discussed. The latest Swedish definition of outdoor recreation which is commonly used in the central administration and by different organisations includes however experience too:

“Outdoor life (friluftsliv) should be defined as being and engaging in physical activities outdoors in order to get a change of environment and a nature experience without any demand for performance or competition (author’s translation)” (Statens stöd till friluftsliv och främjandeorganisationer 1999)

If outdoor recreation takes place during a vacation or includes an overnight stay outside one’s place of residence, it is also part of tourism (Konsekvenser för friluftsliv 2001). It may however be problematic when attempting to differentiate between tourists and recreational uses of areas such as national parks (Butler and Boyd 2000). Outdoor recreation should be granted an intrinsic value that differs from its value as a tourism product; outdoor recreation has both ideal and social objectives, not only commercial ones (Emmelin 1997). As regards the general tradition of outdoor recreation in Sweden, see Sandell and Sörlin (2000).

Land use planning in Sweden is defined as a municipal responsibility. Municipal spatial planning in Sweden is essentially based on a rationalistic planning ideology with a modicum of participatory ideology in the form of mandatory public consultation. The planning ideal of legislation can adequately be described in the terms used by Hall (1974) to define planning: “…a rational process of forethought set in motion by the need to resolve …problems”

Spatial planning is regulated by the Planning and Building Act (1993) but environmental legislation, especially those parts that deal with the spatial instruments of conservation – nature reserves, national parks etc – and the more general regulation of natural resources use, set a context also. In some cases there are unresolved conflicts between these two legislations partly stemming from a division of responsibility between state and municipality (Emmelin & Söderblom, in press).
At the level of the entire territory of the municipality, legislation demands a synoptic plan\(^8\) and there is also the option of such synoptic planning covering a part of the municipality or a special theme. Such a plan is not legally binding. The synoptic plan should indicate the intentions for land use of the municipality. Municipal planning can thus create threats and interference with such “national interests”. The regional level is charged with overseeing planning in order to identify and regulate such conflicts. A consequence of overlapping sectorial claims is that planning at the municipal level will have to find means of settling these conflicts. Synoptic planning and EIA (Environmental Impact Analysis) have been used as mechanisms (Käärik 1993). In the USA the introduction of EIA can partly be seen as the creation of a mechanism for such negotiation between federal interests in a similar manner (Wandesford-Smith & Kerbavaz 1988).

Both environmental and planning legislation in Sweden state that land use should be based on a consideration of what the land or water area is best suited for and on needs for utilising the area. Since no criteria are given for “suitability” the legislation is open to interpretation whether intrinsic ecological values or economic benefits accruing from use should have precedence. For the mountain region environmental legislation introduces a land use conflict which needs to be resolved in spatial planning in that on the one hand reindeer herding is considered a “national interest” i.e. a public interest of high order while on the other hand outdoor recreation is also a priority. The delimiting of areas of “national interest” for several purposes such as conservation, recreation, energy etc. means that sectors at the central level can lay claim to priority in land use in areas that may be overlapping. Demarcating an area as being “of national interest” does not automatically give a particular sector or interest precedence but rather it gives added weight to that interest in the balancing of interests that the planning system is charged with. Furthermore it shifts some power from the municipal level to the regional level since municipal planning that comes into conflict with areas of national interest can by the regional level be challenged and claimed to be revised.

The ideology of the planning legislation may be said to be “functionalist” and the basic presumption “functional specialisation”. Using land for what it is best suited for assumes that there is a dominant land use and user. This is partly a natural consequence of the fact that planning deals with changes in land use rather than management of land within a particular category of land use. Designation for “multiple use”

\(^8\) There are no entirely adequate English equivalents of the legal terms ”översiktspän” (synoptic plan) and ”fördjupad översiktsplan” (term “deepenings of synoptic plans” will be used). The term ”god hushållning” – directly translated it means ”good housekeeping” – is also left without definition or operationalisation. From the point of view of what guidance the term gives for natural resource use and land use planning it is important to understand that the term may both intuitively imply and literally be interpreted as meaning either economising/rationing or efficient use. The term therefore gives no guidance in a conflict between preservation and changes in land use; conversely it can be used by both sides.
would be complicated since balancing different uses is often difficult. However the notion that there are in fact dominant land uses and that conflict resolution is achieved by functional specialisation is deeper.

The spatial planning system has its historical and legal foundation in planning for a built environment: for spatial organisation of housing, industry, infrastructure etc. It deals by definition with changes in broad categories of land use rather than with management of land and the changes in land use, environmental impact etc. that result from changes in modes of using land, new technology, changed economy or social organisation. Within the limits set by the specifications for a particular land use such as agriculture, forestry, housing, industrial areas etc change can be dramatic. Such is the case with the agricultural landscape. Spatial planning may thus lay the fundamental basis for how land is managed by facilitating or impeding change; planning regulations may for example prohibit certain types of changes or land use, nature reserves or areas of national interest where a particular interest takes precedence. It may restrict other uses but there is a wide range of landscape change that it does not regulate. In some cases the instruments of spatial planning are insufficient or inadequate for giving equal treatment to competing land uses. This is the case in the Swedish mountains where conservation has stronger instruments in the form of national parks and reserves than reindeer herding or outdoor recreation.

Furthermore it is important to understand that the historical and cultural context in the mountains influences not only what planning can attempt but also the legitimacy of certain types of measures. The right of public access and the traditional rights of reindeer herding are important cases in point in the mountains. The consuetudinary rights of reindeer herding are being challenged, especially concerning winter grazing on forestland in the southern mountains.

The Swedish system of planning monopoly and veto of the municipalities is in theory a system of communicative rationality: the plan is supposed to express the citizens’ will and needs expressed through their representatives (Nyström 1999, Khakee 2000).

Today’s situation is problematic. Sweden has a planning system that in practice builds up the reality from below: there is not any binding planning above the juridically binding detailed plan. The municipalities are supposed to make a synoptic plan, but it only expresses the municipalities’ intentions concerning land-use. Idealistically the synoptic plan process could be an arena for negotiation or deliberation between different interest groups. One of the conditions for this is that the process should be based on adequate knowledge of conflicts that are to be managed. It is important for negotiations that this knowledge is shared and is seen as legitimate by the parties.

The aim of communicative planning is to achieve unity and a feel of responsibility among all the actors so that a functional discourse is organised, to create an institutional arena, to support a learning process together with the political, social and intellectual capital (Khakee and Elander 2001, Kaltenborn et al. 1999). This was also the case in Södra Jämtlandsfjällen, where the planning process was supposed to be based
on local conditions (article II). The study of the residents in Södra Jämtlandsfjällen also had a better understanding of local knowledge as one of the aims (article III). It is fundamental for the communicative planning theory that it combines explanatory and normative aspects (Innes 1995).

A communicative planning process is continuous and permits review – it does not have a definitive end (Khakee 2000). Because communicative planning emphasizes both interaction and progress by stages where all the representatives are unanimous, the central questions in evaluation are how to in best way (Khakee 2000):

1. Organise a functional discourse
2. Involve all affected actors
3. Further a learning process that is liberating and speeds up the progress
4. Increase the political, social and intellectual capital

Forester (1989) points out a risk of systematic, structural and institutional distortion due to the interactive communicative nature of planning, where information is presented in many different forms. This should be avoided in order to reach a rational communication in the planning process. Characteristic of the communicative rationality is comprehension, integrity, legitimacy and trueness (Khakee 2000).

A society that wants to support participation must have a democratic constitution with full civil rights. Above that the citizens do have to have will, resources, time, meeting places and knowledge. Inadequate knowledge of planning and plans can make it more difficult to involve different interested parties in planning and to discuss different questions with them (Kaltenborn and Thorsberg 1998). This was quite obvious in the case of Södra Jämtlandsfjällen (article II).

There are municipalities that have combined a traditional planning method with elements of civil participation. Municipalities have tried to interest popular movements in a public dialogue about sustainable development, combined with public opinion surveys, information meetings and consultations. Municipalities have tried to map out citizens knowledge’ and will to cooperate and municipal management has been made more accessible to the public (Khakee and Elander 2001). Deepenings of synoptic plans have appeared to be useful in creating lively civic dialogue (Boverket 1996).

Local democracy does not exist only via elections or political parties. It is becoming more and more common for local influence to be mediated by associations and groups of different kinds (Gynnerstedt 2000). This has been strengthened by the trend of decentralization in the public sector during the 1990s (Strömberg and Elander 2000). Democracy is getting more place-oriented than party-oriented (Herlitz 1998). Problems and challenges in the region are a stronger frame of reference than political ideologies (Montin et al. 1998). If the local policies are carried out in many different networks and coalitions, the power is fragmental - the interested parties have united to carry out clearly defined projects (Elander 1999). It is not obvious in the same way to
use the traditional effect channels and the collectivistic is slowly being replaced by the individualistic (Strömberg and Elander 2000).

It is commonly acknowledged internationally that work with nature protection will in the future be more or less a negotiatory process with local participation as one of the main challenges (Furze et al. 1996, IUCN 1993, McNeeley 1997, Smith et al. 1997). Restoration ecology has a double challenge of ensuring that society is aware of the possibilities and limitations of the restoration and at the same time ensuring that ecologists are aware of the societal context of the restoration (Clark 1997, Hagen et al. submitted).

One of the goals of planning in the Swedish mountains (as for spatial planning in general) is to establish the ideas and goals in the communities that planning is handling. Ahrén (1994) presents three ways of reaching this: i) local knowledge, ii) analysis of forms of life and iii) planning steered by problems. Planning has to pay attention to the peoples’ knowledge of their own home ground and what problems they would like to get solved (see article III).

This local knowledge includes social, economic, material and human resources and problems. It is also important to understand the differences between peoples’ ways of life, even within smaller communities (Kaltenborn et al. 1999). Ahrén (1994) points out the importance of planning based on the local problems, not on the traditional and administrative grouping that municipal and national management is based on. Ahrén’s (1994) ideas are strongly based on the studies of the people living in the Swedish archipelago, the area that is in many ways similar to the Swedish mountain region.

Residents’ relation to the area often differs from the average visitors’. In many cases residents are also economically tied to the area. This relation is often called place bonding or place attachment, which is a development process where a certain relationship develops between visitors and places during their recreation engagements (Altman and Low 1992, Hammitt and Cole 1998, Meyer 1996). Residents’ attitudes will be discussed more in detail in article III.

Kaltenborn et al. (1999) point out the importance of understanding local context and resource management regimes that already exist, based on their experiences from the Rondane mountain region in Southern Norway. When a participatory planning process is initiated for protected areas, it must be carefully considered what realistic goals there are for collaboration and co-management (Smith et al. 1997). A planning process that has worked in one community may be unsuccessful in another due to differences in context (McCool and Petterson 2000).

Most of the research on local participation in nature conservation planning has been based on case studies (Kaltenborn and Thorsberg 1998, Kaltenborn et al. 1999, Reading et al. 1994, Sandell 2000). In many communicative planning cases managers may have a greater need for communication skills than for scientific skills (Weeks and Packard 1997, Williams 1995). The problem may be that many managers are used to
being in control and making decisions that affect other people. Different sources and forums are essential to bring out the full range of interests and viewpoints (Alexandersson 2000, Kaltenborn et al. 1999). There are however several problems connected to this; managers and planners may have difficulties in handling indigenous environmental knowledge that often appears to be unscientific or difficult to compare with scientific data (Howes and Chambers 1980).

Experiences of planning show that it may be difficult for the local representatives to get a feeling of participation in the planning process and to take responsibility for carrying out the plan. Furthermore it is common for women to dissociate themselves from the technically directed planning (Nyström 1999). This is much the case in the Swedish mountains too. Friberg and Larsson (2002) point out that gender questions in spatial planning are very little studied.

There is one problem that is brought to the fore – are the village communities or the development groups leading to a general participation and to what extent are they representative of the whole population (Gynnerstedt 2000 and Lyytikäinen 2002)? The same question can be raised even in the case of the mountain planning – who is representing and what? Strömberg and Elander (2000) also see a problem in coalitions that are often built ad hoc – who is responsible? The situation is problematic not only in the case of the local communities, but also among the other users of the area. Who should participate when planning is dealing with outdoor recreation in an area that is of common national interest? It is often the case that people that are visible and active represent relatively small user groups. Their thoughts and preferences can differ a lot from a general view of the users.

There are several actors in the mountains that both affect planning and management and are affected by them:

- Conservation of cultural heritage and nature
- Traditional outdoor recreation
- Local outdoor recreation
- Needs of the locals
- Tourism
- Local trade and industry
- Reindeer husbandry
- Usage of natural resources

There are several types of activities that have changed or moved from one area to another without being paid attention to in planning, although they are exploitative, affect the land use and may create conflicts between different interests (Alexandersson 2000). Planning in the mountains should to a great extent be planning for multiple use and these concepts should be studied more (Emmelin 1997). It is impossible to always meet the demands of all actors and to compromise between different forms of use and protection in a defined area. An analysis of the opposite interests is needed together with a will to give priority to one or some of them.
Alexandersson (2000) emphasizes the need for method development in the mountain planning. The local, regional and national planning processes should:

- Consider entirety, i.e. each geographical area and the whole mountain region instead of a sectorized approach
- Deal with both building and establishments
- Pay attention to the human activities, such as hiking, bicycling, tenting, climbing etc
- Build upon dialogue and consultation
- Include from below perspectives
- Start out from a long-range management of the natural resources

The FjällAgendan Project (Alexandersson 2000) showed that the synoptic planning process is a good platform for coordinated and developed mountain planning. The method was based on working groups that included representatives of the local, the regional and the national level. This made it possible to continuously identify problems and conflicts, to analyse alternative measures and to work out locally established proposals. The project also showed that this way of planning may increase the local understanding of national interests. Alexandersson (2000) notices also that although the project had its focus on land-use and synoptic planning, the developing and planning process on the local level also yielded other positive effects; for the industries, occupation, nature and environment and culture. The applied planning method that was used for example in the FjällAgendan Project requires time to be able to utilize the local knowledge and new information from for example research. If the local problems are supposed to steer the planning process, it is important to let it take time.

Data on outdoor recreation is needed in many phases of the planning process: environmental impact assessment, spatial planning of and for utilization and management of the area and the implementation of the plan. One important difference lies in whether data is supposed to show the state of things ex ante (impact assessment and planning) or ex post (management that can involve supervision, follow-up or revisions of a plan).
Data that give predictions of reactions for different management actions is essential for all planning and for environmental impact assessment. Data that includes only figures showing the gross volumes have thus only limited value, which increases the need for precision and thereby the need for resources.

Need for information is however not only goal-oriented. The ideas of what kind of data is needed build on problem framing, available strategies etc. and thereby come from ideas within different disciplines, professions and management cultures (Emmelin and Kleven 1999).

In the EIA it is an established principle to use existing and available data as much as possible. The lack of earlier studies forces planning to be based on data that is collected during a short period of time. Therefore indirect methods are often used.

Data on outdoor recreation has been studied together with extensive interference with nature in the Nordic countries. For example in Norway there have been a number of cases where the aim has been to bring in outdoor recreation in the environmental impact assessment in the large oil projects on the Norwegian continental base (see e.g. Kaltenborn and Vorkinn 1993, Aas and Aasetre 1994).

Use measurements are essential in managing conflicts. These conflicts are both those that already exist and such that can come up as a result of changes in the area or in society. This means that data should never be collected without connection to the planning process and its form and contents, present situation and development (Emmelin 1997).
One elementary problem has been the lack of data over time. Spatial planning and the Environmental Impact Assessment (EIA) are therefore dependent on data from one occasion. Different ways of compensating for this lack are thus necessary.

Quality wilderness use data is important for examining and testing various principles of wilderness management. For optimal management of the resource it is critical to distinguish management principles that have been empirically verified from those which have never been tested, and are based on nothing more than “authoritative opinions”. The need for data is discussed more in detail in article II.
The “right of public access” – an important planning context

The right of public access to the countryside, which means that everyone has the right, within certain limits, to move freely across private lands, pick mushrooms, flowers and berries etc., is a basic element in the Nordic outdoor tradition. It might be defined as the right to “harmless passage” complemented with the right to personal use of limited natural resources traditionally thought of as having low or no economic value. This right may be regarded as a “tradition” deriving from pre-industrial society. The survival of this right is probably largely attributable to the fact that Sweden is sparsely populated. The tradition of freedom for the farmers and the Germanic legal tradition as opposed to the Roman, are also referred to in support of the public right of access in the Nordic countries today (Wiklund 1995, Tordsson 2000). Mainly during the 1930s, in line with the evolution of a modern recreation policy, the term and the idea of the right of public access were more explicitly and officially recognised, and from then on became an important element in mass recreation in Sweden. The right of public access is important for nature tourism and other types of outdoor activities and it holds a strong public position (see further in Sandell 1997 and 2001).

The right of public access in Sweden is laid down in common law and can be seen as the “free space” between various restrictions, mainly: i) economic interests, ii) people's privacy, iii) preservation and iv) the utilisation of nature (Figure 1). For example, camping for not more than 24 hours is generally allowed, traversing any land, lake or river, swimming, lighting a fire etc. are permitted wherever the restrictions mentioned above are not violated. (See further details in Bengtsson 1999, and a more general discussion in Sandell 2000)

![Diagram of the right of public access](image)

Figure 1. The right of everyone to move freely, pick flowers etc. in the countryside is here identified as the “free space” left between the restrictions of: i) economic interests; ii) privacy; iii) preservation and iv) the use and change of the landscape (e.g. through forestry and agriculture). (Sandell 2001)

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9 Swedish. allemansrätt literally translated: ‘the right of everyone’.
It is important to note that the “free space” left for the right of public access is restricted not only by what is not allowed, i.e. restrictions arising from economic interests, privacy and preservation. The value or content of this free space may be reduced by noise, crowding, landscape exploitation, etc. as the right of public access, with a few exceptions, does not include any right to demand how the landscape should be used or transformed by, for example, forestry, agriculture or infrastructure. Even though guidelines are provided by, for example, the Swedish Environmental Protection Agency, it is important to note that, to a large extent, it is “the landscape” that defines what is – and is not – permissible. Land use may indicate how sensitive it is to people walking or camping on it, and the weather will tell how safe it is to make a campfire.

In modern times the tradition of the right of public access has to some extent been bolstered by legislation. Instances include the obligation of the landowner in specific circumstances to make arrangements to allow people to pass through his/her fences; the inclusion of matters of conservancy and responsible use in legislation concerning agriculture and forestry; and a special law prohibiting the driving of motor vehicles off-road for recreational purposes if there is no snow on the ground (which is important from the point of view of non-mechanised outdoor recreation). Another important aspect of the current public access for recreation purposes is the prohibition of new construction along shorelines.
A simple planning theoretical frame-work for the discussion

A simple planning theoretical model for the discussion and analysis will be briefly presented; for further discussion see e.g. Emmelin & Kleven (1999) or Emmelin (1997, 2000). The horizontal dimension relates to planning rationality. The vertical dimension is the classic geographic dimension of centre versus periphery expressed as a centralist versus a decentralist ideology of planning.

*centralist*

<table>
<thead>
<tr>
<th>organisational &amp; professional culture - “environmentalist paradigm”</th>
</tr>
</thead>
<tbody>
<tr>
<td>expert “calculate”</td>
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*decentralist*

<table>
<thead>
<tr>
<th>“political” “communicate”</th>
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<tr>
<td>local planning monopoly &amp; participatory planning ideology</td>
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Figure 2. Two dimensions of planning theory for the analysis. (Emmelin 1997)

In figure 2 the planning ideology of the Swedish planning system is indicated in the lower right hand corner. Sweden is unique in the European Union in not having a binding regional level. The legally binding land-use planning takes place at the local level, i.e. as municipal spatial planning. However the sector co-ordination and knowledge inputs into local planning are important elements of the regional responsibility. With regional administrations changing this function must be ensured and supplied with adequate tools. Consistency e.g. between goals and objectives of regional development programmes and planning and allocation of resources at regional and municipal level is another central issue. The reason is that municipal planning is ultimately political in the sense that plans are decided on in the politically appointed municipal governing body. The rationality conflict resolution at this level is deliberative or communicative in the sense that it ultimately rests on political negotiation or arbitration.
The upper left corner on the other hand defines a planning ideology expressed by the environmental legislation and embedded in the professional culture of conservation.

These two dimensions can be used to understand several aspects of the conflicts over tourism and recreation development. Among those of special interest here is the view on what kinds of knowledge and data have legitimacy in spatial planning. Legitimacy in a centralist-expert culture arises primarily as a function of the scientific methods and quality of producing the knowledge. Legitimacy in spatial planning is a complex function of both this and the stress on local knowledge. Especially in natural resource use conflicts the views on what is legitimate knowledge is heavily biased in favour of local user knowledge. The conflicts between conservation and reindeer herding in the Swedish mountains or with agriculture in Norway over the large predators are good examples of this (Aasetre 1997).

Legitimacy of the knowledge base for spatial planning is however a complex mixture of views on the processes of acquiring data and knowledge and views on the legitimacy of different actors to express views and to participate in decisions. The positions defined by the eco-strategy model in article II gives insights into both these aspects of legitimacy. A case in point is the view expressed by the Sámi reindeer herding representatives in the case of Södra Jämtlandsfjällen on who should collect data on camping (see article II).

A professional paradigm

While there is no emerging unified “environmental profession” it may be argued that there is an “environmentalist paradigm” serving some of the functions of a culture in a more established profession. The role of “environmentalist paradigm” in relation to planning has been explored in a study of the Nordic environmental professions (Emmelin 1993, 2000) and some points are of importance to our discussion here. The administrations are dominated by officials with their training in the natural sciences and technology. In spite of this the stated need for further knowledge is dominated by natural science. Environment protection is seen as an overriding political goal by a compact majority of the “environmental core administration”, taking precedence over for example employment. The expert/centralist element is manifest in many ways e.g. as a distinctly sceptical attitude towards decentralisation. There is an emphasis on the need for a strong central agency to arbitrate in controversial issues; issues that might by other cultures be seen as political rather than professional. The emphasis on the importance of scientific knowledge is strong and not surprising. The emphasis on a rationalist approach to planning and management is strong: the role of politicians is to set goals, administrative strategy is geared towards control. The emphasis on the expert role as opposed to stronger involvement by political decision-making is very marked. Thus the planning conflicts in our study area can also be partly understood as a professional conflict between the expert/centralist conservation administration and the deliberative culture of municipal planning.
Since spatial planning deals by definition with land use change there is an inherent predilection for change and development, utilisation of resources rather than conservation and municipal competition for development and tax revenues. The environmentalist paradigm is strongly influenced by conservation ideals and non-interventionism (Emmelin 1993). The preferred land use strategies of the two cultures and paradigms are thus biased towards conflict. The eco-strategies discussed below will be different as discussed partly as a function of these paradigmatic differences.
Predicting behavioural responses to plans and management

A central issue in planning is the problem of predicting the responses and reactions of different user groups to plans and management actions. Planning and impact analysis has needs for certain types of knowledge, while monitoring may need other kinds in order to understand discrepancies between predictions and actual reactions and responses.

In spatial planning the functional separation of activities as a means of conflict resolution normally implies that one or several user groups may have to adapt to changes in activity, temporal or spatial use pattern etc. The separation of skiers and snowmobilers is a case in point; access to certain areas will change for one or both groups. The encroachment on reindeer grazing lands by many activities such as hydropower development, mining, road building etc. has been a major problem in some areas. The importance of understanding the combination of temporal and spatial patterns of conflict is important but also a complex problem to handle for spatial planning, since normally only the spatial patterns can be handled with planning instruments. The temporal patterns are more a matter for other types of regulation and management. Functional separation, i.e. setting aside areas where one land use has priority is, as we have noted above, the normal but often blunt instrument available. To introduce more sophisticated spatio-temporal management of conflicts presupposes a more complex understanding of responses.

Visitor studies as a knowledge base for planning and management has employed different instruments to try to approach this problem. One of the well-established methods is LAC discussed below. Social and behavioural studies of recreation planning and management rely to a large extent on the theoretical framework provided by the Ajzen and Fishbein (1980) model of planned behaviour and of variations of and additions to this model (Manning 1999; Ajzen & Driver 1991 & 1992). The basic problem is that attitudes in themselves are unreliable predictors of behaviour, especially if used in aggregate indices to extrapolate or predict complex responses to management. One might argue that this extends Walters’ (1986) argument that natural resource management is in fact controlled experimentation with the fields of recreation and tourism. In the absence of direct study of or experiment with actual responses the approach has been to complement attitude studies with studies of “behavioural intentions” and other indicators of more specific behaviour. Our approach in the case study of the visitors to Södra Jämtlandsfjällen was both to utilise simple indicators of this kind and to complement them with cases to respond to where the question essentially presents a simple scenario (article II). The use of such scenarios in natural resource management for the purpose of studying attitude-related decisions has been successfully employed by Aasetre (1997)

Economic methods such as willingness to pay (WTP) are examples of predictive methods that may be employed. They were used in the study of visitors to Södra
Jämtlandsfjällen to look at visitor-pay-back (see Vuorio, Emmelin and Göransson 2000). Fredman & Emmelin (1999, 2001) have combined WTP with visitor segmentation to give indications of the economic benefits of spatial differentiation of management to cater to different groups on the purism-scale (discussed below).
To segment the users – the purism scale

It is quite obvious that outdoor recreationists and tourists have different interests and needs concerning “nature without human influence”, that their tolerance towards crowding, contact with other people and their idea of untouched nature differ to a great extent. From a scientific point of view it is interesting to study different individuals’ and groups’ attitudes to wilderness and wilderness experience. For management and planning it is interesting to know what kind of qualities people look for and appreciate. Tourism that is supposed to be based on wilderness experience should have a strong interest in getting a more varied picture of customers’ attitudes and expectations.

In the practical management and marketing simplifications are needed. Using average values is, however, unwise – they often hide interesting and useful information. Moscardo et al. (2001) and McVetty (2002) discuss visitor segmentation and state that it should describe visitor use reliably in several dimensions, producing segments that are: homogeneous, durable, measurable, responsive, relevant, accessible, substantial and compatible. There are a large number of classifications that are used in studies on outdoor recreation. Socio-demographic segmentation of visitors has been widely used and these variables, for example sex, age and income, are useful to some extent (see e.g. Manning 1999). If the users are instead segmented according to behaviour or motives, the method is usually called psycho-graphic segmentation. The psychographic segmentation may either be based on visitors’ answers to variables that are defined in advance (for Scandinavian examples see e.g. Aas and Vorkinn (1991) and Vistad (1992) or the criteria that distinguish between different user groups may be determined with the help of statistical analysis (for Scandinavian examples see e.g. Kleiven (1992), Miettinen and Horne (1999) and Sievänen (2001)).

An interesting and at the same time practical classification of users is to look at the most sensitive, the most tolerant and the group between them separately. In the international literature the most sensitive group is often called “the purists” concerning the wilderness experience. Purists have a great demand for the wilderness characteristics of areas and they react strongly even to moderate disturbances. They want to be alone in nature, or at least have an illusion of being so, and they do not want to see traces of other people or the use of the area. They want especially to be alone at the campsites and to be free to put up their tents wherever they want: the feeling of freedom is important for the experience. The term for the opposite group is “the urbanists”. The urbanists have more tolerance for the other users, for example along the hiking trail they can experience meeting other users as positive. They tolerate different arrangements and also want to have different forms of service. Between these two groups there is a large group of “neutralists”.

By asking a set of questions about different indicators for unspoiled nature or wilderness characteristics it is possible to get a good picture of individuals’ preferences on a purism scale. Characteristic questions are for example about visitors’ attitudes towards marked trails, huts, other visitors, different restrictions etc. The object is to get a picture of visitors’ general ideal, not only expectations on a certain area. The purism scale is a one-dimensional addition of answers to all these questions.
The recreation opportunity spectrum (ROS) and the limits of acceptable change (LAC)

The Recreation Opportunity Spectrum\textsuperscript{11} is a conceptual framework for encouraging diversity in outdoor recreation opportunities. Different factors defining recreation experiences are combined to describe different recreation opportunities. The starting point is in other words the experience, not only activities. Different people seek different experiences and have different qualifications for outdoor recreation (see for example Williams 1988, Driver et al. 1987). The ROS is a method of dividing areas into classes where the environment gives different conditions for outdoor recreation. Two objectives may be identified: i) to meet different peoples’ demands by offering a variety of recreation opportunities. ii) by canalisation protect the vulnerable environment. A common doctrine in ROS is that activities take place in specific settings for the purpose of realizing desired experiences (Driver et al. 1987).

In the USA the system has been adopted by two major federal recreation agencies, the U.S. Forest Service and the Bureau of Land Management. It is also used in New Zealand by the Department of Conservation (Hall and Higham 2000). The development of recreation planning internationally has hardly affected the Swedish planning for outdoor recreation (Emmelin 1997), nor has the municipal synoptic planning in Sweden been affected by the type of planning that the ROS represents. There are however some cases where ROS planning has been applied (see for example Wallsten 1988). Similar planning tools were also used in Fulufjället national park (Naturvårdsverkets föreskrifter för Fulufjällets nationalpark 2002) and plans for ROS planning were also included in the case of Södra Jämtlandsfjällen (article II).

The basis of the ROS planning is a multidimensional description of the environment. The recreation settings are defined by three broad categories of factors: the environmental, the social and the managerial (see for example Virden and Knopf 1989). Clark and Stankey (1979) describe ranges of these factors together with the resulting recreation opportunity types. Their approach is more applied (Manning 1999). Four opportunity classes may be found: i) primitive, ii) semi-primitive, iii) semi-modern and iv) modern. Each opportunity type is defined by the combination of factors. They suggest six basic factors to be used: access, non-recreational resource uses, on-site management, social interaction, acceptability of visitor impacts and acceptable regimentation.

Brown et al. (1979) define recreation opportunity types more descriptively. They seek to link settings to the motivations or psychological outcomes they fulfil. They use six opportunity classes: i) primitive, ii) semi-primitive, non-motorized, iii) semi-primitive, motorized, iv) rustic, v) concentrated and vi) modern urbanized. They use five factors to define recreation opportunity classes: Managerial regimentation, inter-

\textsuperscript{11} The abbreviation ROS will be used from now on.
The ROS can help to guide allocation decisions so that each recreation area contributes to the diversity in a system of recreation opportunities (Manning 1999). The ROS is also useful in defining management objectives for each area. The ROS provides a framework within which consequences of alternative management actions can be evaluated (Manning 1999). The ROS is also an effective tool for matching desired experiences with available opportunities.

In Figure 3 the relationships among the three basic factors are described. The relationship is linear which means that when one of the conditions is changing, the other two are proposed to be changing in a corresponding manner (Manning 1999). This means that only certain combinations of factors are possible.

![Figure 3. The relationship among the environmental, the social and the managerial conditions in the ROS (Manning 1999).](image)

An important task for planning is to set acceptable limits to the change of conditions in a certain area. In most of the cases efforts to apply carrying capacity to recreation areas have resulted in frustration (Manning 1999, Hammitt and Cole 1998). There have been difficulties in determining the extent of impact or change that should be allowed. To monitor the use and the conditions following the ROS methodology is necessary after the plan has been made. Limits of Acceptable Change (LAC) is a way of setting limits to changes in the environment, based upon knowledge of the environment and users and their attitudes, expectations and desires (Stankey et al. 1985).

The planning framework based on LAC is basically a reformulation of the recreation carrying capacity concept (Pigram and Jenkins 1999). Shelby and Heberlein (1986) have suggested distinguishing between descriptive and prescriptive components of carrying capacity. The focus of the descriptive component is on factual data that can be objectively measured. The prescriptive component has a more subjective focus on
the acceptable changes. The fact that LAC is not a neutral, scientific tool but an instrument loaded with subjective judgements is the reason for the user participation that this kind of planning tools implies (Emmelin 1997). In the case study of the visitors in Södra Jämtlandsfjällen (article II) many of the questions had this goal – to study the visitors’ attitudes towards changes. This was also the case in the study of the residents (article III).
What knowledge and what legitimacy is needed?

Various landscape perspectives – involving both mental landscapes “mindscapes” (Hägerstrand 1991) and actual use and behaviour – are to be found with regard to a specific physical landscape (Figure 4). They might be the differences between the local residents and the tourists; between the preservationists and the foresters; between the cross-country skiers and the snowmobile tourists etc. In addition, these different landscape perspectives change over time due to for example external influences and technological development. Also they might, at least to some extent, be different for the same person or group in different contexts. This means that when discussing the need for knowledge that could feed the spatial planning process, the point of departure must be taken in questions of what knowledge and whose legitimacy are to be looked for.

Figure 4. Various landscape perspectives – involving both mental landscapes “mindscapes” (Hägerstrand, 1991) and actual use and behaviour – are to be found with regard to a specific physical landscape (Sandell 2000).

To a large extent planning is carried out with a specific perspective in mind forming the type of knowledge and legitimacy needed. If for example the high mountains in Sweden are mainly looked upon as a region of interest for its contribution to the global biodiversity, it might be sufficient to have a number of inventing biologists get all the important areas demarcated and protected. But if the high mountain region is mainly looked upon as the home district of the indigenous Sámi people, the inventory by the biologists will only form a very little part of the need for knowledge for spatial planning and it will have a limited legitimacy among the main interest group. And the legitimacy among the Sámi people is not at all a reason to believe that the knowledge collected is seen as legitimate among e.g. tourist authorities. The “triangle drama” (Emmelin 1997) between conservation, outdoor recreation and tourism is a typical example of how different themes and groups are linked to different perspectives. What type of knowledge for a planning process might be seen as legitimate is there-
fore a reflection of what landscape perspective is taken as the point of departure for
the planning process.

The current tendency to ask for more of a communicative planning and more of a
“bottom-up” perspective in the planning process, as discussed above, involves here
two major shifts with regard to what type of knowledge and whose legitimacy it is
necessary to ask for. First, in line with the previous discussion, there are now to some
extent new themes and new groups that have to be taken into consideration with re-
gard to what should be investigated (also of course involving a discussion of what
type of methods are suitable). Secondly a planning process more in line with commu-
nication and bottom-up strategies must involve the fact that also not previously
known themes and groups might be manifested as an outcome of the investigation. In
other words, the planning process must include openness for what values (attitudes,
activities, groups) have to be taken into consideration with regard to the need for
knowledge and legitimacy.
Svensk sammanfattning

Den svenska fjällregionen omfattar ca en tredjedel av landet men bara mindre än 2 procent av svenska befolkningen bor i området. 90 procent av alla skyddade naturområden ligger i området. Med sina 8000 kilometer vandringsleder och 100 fjällstugor och –stationer är det ett av de viktigaste områdena för friluftsliv och turism. Området besöks av en fjärdedel av den svenska vuxna populationen varje år. Turism har fått allt större betydelse och roll i utvecklingen av området, mycket på grund av råvaruindustrins nedgång.


Det finns stora skillnader mellan besökare i de svenska fjällen. Deras behov och intressen för olika naturupplevelser, deras tolerans för trängsel och kontakt med andra besökare varierar mycket. Det är viktigt för planering och förvaltning att ta reda på vilka kvaliteter besökare söker och uppskattar.

Förvaltning av friluftsområden är vanligen kombinerad med bevarande och har ofta två mål: i) att bevara “naturligt tillstånd” och ii) ge möjligheter till friluftsliv. Dessa mål står ofta i strid med varandra. Lösning av denna konflikt är både ett teoretiskt och praktiskt problem.

Hur man borde förse fysisk planering med relevant information som kan användas för att förutse reaktioner på olika förvaltningsåtgärder för att kunna hantera konflikter är en av de centrala frågorna i den här avhandlingen. Olika metoder för att mäta naturturism och friluftsliv diskuteras. Tre studier presenteras: i) en nationell studie om svenskarnas fjällvanor, ii) en fallstudie bland besökarna i Södra Jämtlandsfjällen och iii) en fallstudie bland lokalbefolkningen i Södra Jämtlandsfjällen.

Sammanfattning av artikel I

de norra delarna oftast på sommaren. Endast 5 % av besökarna i fjällregionen kom-
mer från länder utanför Skandinavien. Under bara ett år besökte fjällregionen av nio
gånger fler människor än vad som bor där. Trots detta fortsätter befolkningen minska
i området.

Sammanfattning av artikel II

I den här artikeln diskuteras kunskapsbehovet av friluftsliv och turism inom fysisk
planering i den svenska fjällregionen. Artikeln diskuterar datainsamling och presente-
rar olika metoder. En fallstudie bland besökarna i Södra Jämtlandsfjällen presenteras
med fokus på de använda metoderna.

Studien genomfördes som en del av den fördjupade översiktsplanen som Åre och
Bergs kommuner jobbade tillsammans med. De centrala frågorna handlade om natur-
skydd, förvaltning av friluftsliv, ekonomisk utveckling och resurskonflikter. Redan i
början av processen upptäcktes brister i kunskap om turism och friluftsliv av några av
de centrala aktörerna. Detta resulterade i den studie som beskrivs och diskuteras i den
här artikeln. Den ursprungliga tanken om att ha den producerade kunskapens roll i
planeringsprocessen som central fråga i den här artikeln gjordes omvändt tidigt när de olika parterna inte kunde
hitta konsensus kring de viktigaste frågorna. Däremot har vi studerat och diskuterat
efarenheterna av de olika metoderna och använt en ekostrategisk modell för att ana-
lysera och diskutera kunskapens legitimitet och förhållandet mellan de olika land-
skapsperspektiven och det upplevda kunskapsbehovet.

Självregistreringar i kombination med tillräckliga bortfallstudier kan ge en tillfreds-
ställande översiktlig bild av områdets användning. Samtidigt är det tydligt att bortfal-
let varierar för mycket i tid och rum för att göra det möjligt att använda självregistre-
ingar ensamt för att studera besöksfrekvenser och –mönster. En generell konklusion
är att några goda genvägar till användbar kunskap om friluftsliv för helheten av plane-
ing och förvaltning eller för Miljökonsekvensbeskrivning inte finns. Kraven på möj-
lighet till prediktion är alltför stora för att grova indirekta mängddata skall ge me-
ningsfull information. Det är i hög grad oklart och osäkert vad kunskap om bruttovo-
lym har för värde som beslutsunderlag. Däremot kan indirekta metoder, i kombination
med ordentlig eftertanke rörande planeringens mål och resurskonflikternas karakter,
ge viktig information för att avgöra vilken typ av datainsamling som behövs. De flesta
metoder oavsett om de är direkta eller indirekta är både tids- och resurskrävande, men
stora skillnader finns dock.

I situationer där det finns konflikter är det viktigt att bilden av den aktuella situationen
är både väl etablerad och legitim. Det innebär att både metoder och olika parter som
deltar i studien måste upplevas som legitima av alla parter i planeringsprocessen.
Sammanfattning av artikel III

Article I: Current Tourism Patterns in the Swedish Mountain Region

Thomas A. Heberlein
Peter Fredman
Tuomas Vuorio

Tourism has been part of the mountain economy in Sweden for the past century. With the current decline of the extractive industries in this rural area, tourism is taking on new significance for many communities. This article gives an overview of tourism in the extensive Swedish mountain region, with a focus on types of recreational activities and their regionality. The data presented are based on a national sample of participation in mountain tourism. Findings show that 43% of the Swedish adult population (2.66 million individuals) visited the mountains at least once during a 5-year period (1995-1999). Winter activities—skiing and snowmobiling—were the dominant forms of mountain recreation. Tourism activity patterns differ distinctly across the 4 mountain counties: whereas winter tourism dominates in the southern parts of the region, the north receives visitors mostly in the summer. Only 5% of visitors to the Swedish mountains are from outside Scandinavia. In a single year, 9 times as many people visited the Swedish mountains as live there, but despite these numbers the population in the region is continually decreasing.

**Keywords:** Mountain tourism; Swedish mountain region; national survey; tourism activities; population change.

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### Introduction

The tourism industry is growing in many mountain areas and has become an important development issue. Among the driving forces are an increased demand for recreational activities and the need for infrastructure and job opportunities. The positive economic effects of tourism can include a stimulus for related industries and increased government revenues (Frederick 1993; Shaw and Williams 1994). Although tourism may be attractive as a means of economic development, its environmental impacts on fragile ecosystems are a matter of serious concern. These impacts have been studied extensively, and their destructive influences on the very qualities of the natural environment that attract tourists have been described (Hall and Page 1999).

The first step in understanding how tourism affects the environment while sustaining local economies is to examine both tourism patterns and ecological features at a scale relevant to officials, planners, and tourism entrepreneurs. There is a lack of comprehensive data on tourism patterns in most mountain regions. Much of the existing literature describes the situation in single sites or areas, whereas studies on the national or regional scale are less common. A review of 32 articles of the *Annals of Tourism Research* (volumes 18 and 19) turned up fewer than 10% that used national data, and none of these focused on mountain tourism (Heberlein 1999).

Although Bätzing et al (1996) have shown that it is necessary to compile data at the local level because development in the mountains is uneven, national data are needed to place local data in a larger context. National data allow one to compare the impacts of different types of use, use conflicts, and potentials for growth in different areas.

A number of earlier studies of tourism in the Swedish mountains exist, but they have either focused on particular issues or on limited areas. For example, hikers have been studied extensively in specific areas (Bäck and Hedlund 1980; Hultman and Wallsten 1985; Vuorio et al 2000). Management preferences and visitors’ willingness to pay for wilderness experiences have been studied by Fredman and Emmelin (2001). Vail and Heldt (2000) compared institutional factors influencing the volume and structure of tourism in Maine, USA, and the southern part of the Swedish mountain region. Nyberg (1996) did an overview of the preconditions for alpine tourism in Sweden and Norway.

This article presents a national survey of Swedish residents traveling to the Swedish mountain region, with the aim of identifying the basic parameters that are necessary to understand the possible impacts of this visiting human population on the region. The survey shows what proportion of the population actually visits the mountains, what their destinations are, when tourists travel, and what they do. These data can help determine where one should look for potential social and ecological impacts of tourism at a smaller scale. The information from this national survey is also combined with local demographic data to discuss how tourism influences local population numbers.

### The Swedish mountain region

Located at the northern periphery of the European community, the Swedish mountain region makes up about one-third of the country but includes less than 2% of the population. One hundred and fifty-three thousand permanent residents (1999) are spread across 145,500 km², with a population density of about 1 person per square kilometer (Statistics Sweden 2000). The distance from the large population centers in the south of Sweden is great—between 400 and 1500 km. Significant areas of the mountain region in Sweden are protected under environmental legislation. About 60
nature reserves and 9 national parks account for 90% of the total nature conservation area (national parks and nature reserves) in Sweden (Statistics Sweden 2000). Most of the mountain area is used for reindeer herding by Sami people, whose culture is attracting an increasing number of tourists to the region (Müller and Pettersson 2001).

The mountain range stretches for over 1000 km along the border to Norway. Geologically speaking, it is among the world's oldest ranges, and erosion over millions of years has given the mountains a rounded shape and lower altitudes compared with, for example, the Norwegian mountains or the European Alps. The highest peaks are just above 2000 m. Because the timberline

FIGURE 1. View of a hiking trail near Åre in Jämtland county. Good tourist facilities, road infrastructure, and the gentle and open topography in the Swedish mountain region make day hiking an attractive activity in summer. (Photo by Göran Asaner)

FIGURE 2. Åre ski resort, southern half of the Swedish mountain region: this is the second-largest downhill ski resort in Sweden. Though altitudes are comparatively low, with the highest peak at 1420 m, conditions in the area make it an attractive winter destination for domestic tourists from the large urban centers in the south of Sweden. (Photo by Göran Asaner)
is as low as 900–600 m, depending on latitude, bare and easily accessible mountains are a common feature. The gentle topography makes many areas well suited for hiking and cross-country skiing (Figure 1). Winter tourist activities are usually possible from December to April, whereas the summer season lasts from mid-June to September. Short days and low temperatures characterize November to January, and the summer features 24 hours of daylight.

By comparison with other tourist areas in the subarctic and arctic regions, such as northern Canada, the Swedish mountain region features a wider range of services and greater accessibility (Lundgren 1995). Several areas have extensive tourism facilities. The Swedish Touring Club (STF) and the local county administrations manage a total of about 8000 km of hiking trails and some 100 mountain huts, lodges, and visitor centers (*naturum*). About 40 major downhill ski areas exist, the 2 largest being Äre and Sälen located in the southern parts of the region (Figure 2). For the past decade, tourism has increasingly focused on downhill skiing; today the 7 largest resorts account for about three-fourths of the turnover from downhill skiing in Sweden.

This study focuses on the 15 mountain municipalities located in the western parts of 4 counties: Norrbotten, Västerbotten, Jämtland, and Dalarna (Figure 3). The term "county" in this article refers only to the mountain municipalities in these counties. The most northern county, Norrbotten, features remote areas with high alpine characteristics and spectacular scenery. This is where all major national parks are found, including the Laponia World Heritage site—a wilderness area that covers 8700 km². In the adjacent county to the south, Västerbotten, the mountains are less rugged, with the highest peaks at 1800 m. The Vindelfjällen nature reserve in this county is among the larger protected areas in Sweden. Further south, in Jämtland and Dalarna, the mountains typically feature less alpine characteristics, including large continuous areas of accessible mountains just above the timberline.

**Data sources**

A national telephonic survey was conducted between August and September 1999 using a random sample of Swedish households outside the 15 mountain municipalities. Computer-aided telephone interviewing (Nicholls and Groves 1986) was used, and 3506 interviews were completed with a response rate of 79.1%. The individual in the household (aged between 15 and 70 years) with the most recent birthday was chosen as the interviewee. There were 6.1 million individuals in that age category in Sweden that year. The sample was representative of national demographic trends in terms of gender, but there was a slight overrepresentation of individuals in the 30–39 and 50–70 age groups and a slight underrepresentation in the 15–29 and 40–49 age groups.

Each respondent was first asked about journeys they made to the mountain region that included at least 1 overnight stay. To capture journeys over the last 5 years, respondents were asked about trips during the periods: (1) September 1998–August 1999; (2) January 1998–August 1998; and (3) 1995–1997. Once a positive answer was reported, the interviewer went on to the visitor section of the questionnaire. Only the most recent trips were considered. If more than 1 trip was undertaken during the period, the next answers were related to the longest one. If no journey was recorded for the whole period (January 1995–August 1999), the respondent was classified as a "nonvisitor" and was asked questions from the nonvisitor section of the questionnaire.

Visitors were asked about places visited, time of year, main purpose, and types of accommodation used during the trip. The survey contained questions about a large number of different outdoor activities and forms of socioeconomic behavior. A follow-up mail survey was done but is not described in this article.

In addition to the national data generated through this survey, a number of existing data sources were also used. These data were originally collected by the Swedish Environmental Protection Agency, the STF, the Swedish Skilift Areas Association, and Statistics Sweden.
Findings

According to the telephonic survey data, in a single year (September 1998–August 1999) nearly 1 in 4 Swedes (23%) made an overnight trip to the Swedish mountain region (Table 1). This represents 1.4 million individuals. Moreover, 44% of the Swedish population (2.66 million individuals) visited the mountains at least once between January 1995 and August 1999. (If not further specified, the population used for the analysis in this study consists of those who reported a trip to the mountains during this 5-year period.) But these visits were not evenly distributed across the mountain counties. The southern mountain regions are much more popular than the northern regions. In the 5-year period, about 1 out of 4 Swedes visited the mountains of Dalarna county and Jämtland county, whereas less than 10% visited the mountains of Västerbotten and Norrbotten.

The Swedish mountain region is primarily a playground for outdoor activity seekers, not a business destination. Eighty-five percent of the people who visited the mountain region went primarily for recreation or vacation, whereas only 8% traveled primarily for business purposes and 7% to visit family and friends.

Visits to the mountains are not evenly distributed across the year (Table 1). Most of the visitors to the 2 northern counties come during summer, whereas winter tourism dominates in the south. Only about 4% of all visits to the mountain region in Sweden take place in May, October, or November.

Figure 4 shows the seasonal differences in greater detail. In Norrbotten, July and August are the most popular summer months, whereas April is the most popular winter month. The pattern in Västerbotten shows a higher proportion of winter visits compared with Norrbotten, also with a peak in April. The 2 south-
ern counties show distinct differences compared with the north. In Dalarna, visits occur mainly in the winter season—particularly between January and March—whereas the summer season is very weak. Jämtland has a similar pattern but a somewhat later winter season and a stronger summer compared with Dalarna.

**Winter activities**

Respondents were asked to indicate which of 14 activities they engaged in on their last trip. By definition, all trips surveyed involved at least one overnight stay in the mountain region. In considering hikers and cross-country skiers, however, we did separate individuals who made day trips from those who made overnight trips. A day trip typically involves staying overnight (one or several nights) in a hotel, lodge, or campground that has a road connection, whereas an overnight trip involves at least one overnight stay in a tent, hut, or lodge in the backcountry area. A typical overnight trip would involve skiing or hiking from hut to hut for several days in the backcountry, with most supplies being carried in a backpack.

Throughout the entire mountain region, 80% of the winter visitors did downhill skiing, less than 30% did day trips on cross-country skis, and a quarter went snowmobiling. Despite an extensive trail and lodge system, only 2% of the winter visitors said they went on an overnight cross-country ski trip in the mountains (i.e., stayed overnight in a hut or lodge in the backcountry area while skiing). On the other hand, only 10% of the winter visitors did not ski at all.

Downhill skiing tends to have the least diversification of all activities—47.9% of the downhill skiers said they only went downhill skiing. The next closest concentrated activity was day trips on cross-country skis, but no more than 14% engaged exclusively in cross-country skiing. Only 7% of the snowmobilers participated solely in snowmobiling in the mountains—74% also went downhill skiing, 32% did day trips on cross-country skis, and 23% participated in fishing.

Participation in winter tourism activities differs among the 4 mountain counties. In Norrbotten, participation is more diversified in all areas of activity. Only 50% of the visitors did downhill skiing, whereas 8% did overnight cross-country skiing. Cross-country skiing day trips and snowmobiling and angling were reported by 20–25% of the Norrbotten visitors, respectively. Västerbotten attracted a higher percentage of snowmobilers and anglers than the other counties (52%). Cross-country skiing day trips were also reported by 34% of the visitors.

Visitors to Jämtland and Dalarna primarily participated in 3 different activities—downhill skiing, cross-country skiing day trips, and snowmobiling—with emphasis on the first. In Jämtland, 79% of the visitors participated in downhill skiing, and in Dalarna the corresponding figure was as high as 87%.

**Summer activities**

For the whole region, there was considerably more overnight hiking than overnight cross-country skiing. Approximately 18% of the summer visitors took an overnight hike using the facilities provided in the backcountry or their own tent. However, day hiking is still much more popular—50% indicated having taken a day hike. Twenty-nine percent went fishing, and about 1 in 5 picked berries or mushrooms. Looking at those individuals who engaged in more than 1 activity during their visit to the mountains, we find that 50% of the day hikers also went fishing, 40% participated in nature study and photography, and 24% picked berries during their trip to the mountains.

Summer tourism patterns also varied considerably among the 4 mountain counties. Norrbotten in the north was favored by overnight hikers (33%) and nature photographers (48%). Västerbotten had the lowest percentage of overnight hikers (11%), whereas almost 35% participated in angling. In the summer, day hiking was the most favored activity in Jämtland and Dalarna (chosen by 57% of visitors in Jämtland and almost 60% in Dalarna). In absolute numbers, Jämtland had the highest number of overnight hikers, although only 12.5% of visitors to Dalarna reported overnight hiking.

**International visitors**

With hundreds of millions of Europeans in densely settled countries like Germany, France, and the UK, it would seem that the Swedish mountains would be an attractive tourist destination only a short plane journey away. Although lacking some of the challenges favored in the much steeper and more rugged European Alps, the Swedish mountain region features accessible terrain, solitude, and exotic nature experiences such as the midnight sun and northern lights. The attractiveness of such experiences has been addressed both in research and market studies of tourism in Sweden (Müller et al. 2001).

Using overnight data from Statistics Sweden, we found that only 1% of visitor nights in the Swedish mountains were generated by someone outside of Europe. Four percent came from Europe outside of Scandinavia and 9% from Scandinavia outside of Sweden (Figure 5). The top 4 sources of international visitors to the Swedish mountains were Denmark, Norway, Germany, and Finland. Compared with the rest of Sweden, the mountain area got a lower percentage than its share of international visitors.

Whereas the northern counties had fewer tourists, a higher proportion of tourists were non-Scandinavian international visitors: 12% of visitor nights in Norrbotten...
and 6% in Västerbotten were from outside Scandinavia. By contrast, only 2% of visitor nights in Jämtland and Dalarna were generated by non-Scandinavian visitors. In Sweden’s second-largest downhill ski complex, the Åre village located in Jämtland, 93% of visitors were Swedes and 5% came from other Scandinavian countries. Only 2% came from outside Scandinavia. This same pattern also held in the major downhill ski area of Sälen in Dalarna.

Discussion

Mountain visits are exceedingly popular in Sweden. Because national surveys of the type presented here are rare, as noted earlier, there are few comparable data from other countries. One exception is a recent study in the UK (Star UK 2001), which showed that only 1 in 40 British tourists visited the highlands of Scotland in a single year. The 23% Swedish annual visitation rate suggests that the mountains are an important part of the Swedish experience and identity. What happens in the mountains affects many Swedes, whether they are part of the resident population or not; research on these socioeconomic and cultural aspects is needed. Because the population of Sweden is low (less than 9 million), the high proportion visiting the mountains does not necessarily imply large social or environmental impacts. But it does suggest that within the context of the Swedish experience, such impacts could exist and should be further studied. Development of Sami tourism in Sweden, for example, has been on a smaller scale and more integrated with the local tradition when compared with Finland (Pettersson 2001). However, further research is needed on conflicts between tourism development (e.g., hiking and snowmobiling) and both reindeer herding and nature protection in the mountain region.

Swedish mountain tourism is winter-dominated, downhill ski-driven, and geographically uneven. Most of the winter tourism takes place in the south (Dalarna and Jämtland), and increases in skiing participation are likely to continue to be the driving force in Swedish mountain tourism (Fredman and Heberlein 2001). Summer visitation is lower, dominates in the north, and is much more diverse in terms of activities. The variations in tourism patterns can be explained by the peripheral and stretched-out location of the mountain region as well as by variations in natural characteristics.

Current infrastructure makes access to the southern parts easy by car or bus from the urban areas in southern Sweden. Travel to this part of the mountain region is both cheaper and more attractive because time is a limiting factor for travel. People living in the Stockholm region can go for a long weekend in Dalarna or Jämtland, but few people would do that further north. Travel further north, especially during the winter, requires more days, more money, and greater commitment. The northern parts of the mountain region are serviced by several airports, and overnight trains bring visitors to a few destinations in Norrbotten (Fredman et al 2001). In the winter, the arctic climate limits tourism activities in the far north, whereas in the summer, the midnight sun is a further attraction. The highest mountains and more spectacular scenery are also found in the north, where a well-developed trail-and-hut system provides good hiking possibilities.

Not all municipalities in the mountains are dependent on tourism. The workforce engaged in the hotel and service sectors in the mountain municipalities varies between 4 and 23%, whereas the average in Swe-
den is 7% (Statistics Sweden 2000). This suggests that it is not appropriate to think of the entire mountain region as a tourist destination. Most mountain municipalities are still characterized by agriculture and forestry dependence. The national average for the labor force in agriculture and forestry is 3.1%, and several mountain municipalities have nearly 10% in this category. Even the major tourist municipalities have double the national average in extractive occupations. But because tourism is growing in many parts of the region—particularly in the south (Fredman and Heberlein 2001)—there are reasons to believe that dependence on tourism will increase in the future. Jansson (2001) studied tourism employment between 1985 and 1995 in the county of Västerbotten and found a slowly ongoing touristification of the labor market.

Though the proportion of Swedes who visit the mountains is high, it does not offset population decline. The total resident population in the region has been declining since 1960 by over 6% per decade. The mountain region lost 55,000 individuals or over one-quarter of its population in the last 39 years, decreasing from 208,688 in 1960 to 153,438 in 1999 (Statistics Sweden 2000). All 15 mountain municipalities have seen their population decrease between 1960 and 1999, even those most dependent on tourism. Looking at the 4 mountain counties, negative population trends are found without exception (Figure 6).

Human population trends in the mountains have been driven by declining labor needs in extractive economies, and this has not been offset by tourism, even in the municipalities most dependent on tourism. Even Malung municipality—which has the most commercial overnight visitors per year in the mountain region—has had a steady decline in population and has lost 17% of its permanent residents between 1960 and 2000.

The small number of international visitors to the Swedish mountains, as compared with the rest of Sweden (Figure 5), also means that mountain tourism brings relatively little foreign income into the country. We believe there is a potential for development here, for example, by attracting visitors from Europe and possibly the Baltic countries with nonstop charter flights to Östersund or Trondheim, which are both international airports located only about 100 km away from Åre, the major downhill ski area in Sweden. In the north, solitude and the experience of an exotic natural environment could be better developed for an international market—one example being the Ice Hotel outside Kiruna.

Future research in Sweden needs to take a closer look at the role of tourism in sustaining human populations in the mountains. Historically, mountain communities in Sweden and elsewhere have typically been dependent on extractive industries. But given the declining need for labor in the mining, logging, and farming sectors and a declining population, tourism takes on a new meaning in many communities (Bätzing et al 1996; Kaltenborn 2000). In the case of employment in the manufacturing sector, rural areas are primarily recipients of low-wage, low-skilled jobs. They also often suffer from a lack of diversity in their economic structure, which means that they are highly dependent on a few employers, and economic dependence is often external rather than local (Marcoullier and Green 2000). In order to challenge such economic structures
and balance economic development with nature protection, as well as local cultural ownership and participation, the potentials of ecotourism in the many mountain regions ought to be studied in the future.

Ecotourism is defined by the International Ecotourism Society as “responsible travel to natural areas that conserves the environment and sustains the well-being of local people” (International Ecotourism Society 2002). Clearly, many mountain areas around the world have great potential for ecotourism development because they are rural with a limited economy and have sensitive natural environments. Sweden was the first country in Europe to introduce an ecotourism labeling system in 2002 (Ekoturismforeningen 2002). In the initial stage, some 40 tourism operators have initiated the labeling process, many of which are operating in the mountain region. We believe that ecotourism could play a key role in the future of mountain communities, but additional research needs to be done. Important issues to address are how ecotourism can decrease the environmental impacts of tourism, contribute to developing local cultures (such as the Sami culture in Sweden), foster local economies, and create attractive job opportunities that counteract the negative social effects of seasonality.

REFERENCES

Article II: Methods for monitoring outdoor recreation and tourism in large nature areas – the case of Södra Jämtlandsfjällen

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References
1. Introduction

The paper reports a study of use patterns in the summer season in a large mountain area as well as some theoretical and methodological issues concerning the study of use patterns. The case study was designed to be part of a comprehensive planning process carried out by local and regional authorities. It was carried out as a commissioned project for the planning authorities complemented by aspects of interest to ETOUR research as described in chapter 6.1. The whole planning process was however broken off by decision of the regional authorities. This means that many of the objectives of the study could not be achieved. The present report focuses on methods and on some of the salient results of the case study. The theoretical framework outlined here as well as some of the methodological aspects, such as the use of the purism scale, will be used only marginally for analysis and discussion in this report since they will be used for later analysis within the Fjäll-Mistra project in general rather than specifically in the planning case study.

We will discuss the production of information on outdoor recreation and tourism for spatial planning in the Swedish mountains. The paper consists of the following parts: In chapter 2 the need for information on outdoor recreation and tourism in spatial planning will be discussed. Chapters 3 and 4 discuss collecting data on outdoor recreation, including a description of a number of methods. Chapters 5, 6 and 7 present the case of Södra Jämtlandsfjällen including a description of the methods used and the results. Chapter 8 contains the discussion.

The study was carried out as a part of the thematic, synoptic plan (fördjupad översiktsplan) for Södra Jämtlandsfjällen (figure 1), on which municipalities of Åre and Berg were working together with regional and national authorities. The central questions in the planning process concerned nature conservation, management of outdoor recreation, economic development and resource conflicts. Already at the beginning the lack of information on tourism and outdoor recreation was noticed by some of the central actors. As a result of this European Tourism Research Institute (ETOUR) was contacted to study the use of the area. Two reports has been published earlier, “Vuorio, T., Emmelin, L., Göransson, S., and Gudmundson, A., 2000. Besöksmönstret i Södra Jämtlandsfjällen sommaren 1999. Working paper 2000:7. ETOUR.” and ”Vuorio, T., Emmelin, L., and Göransson, S. 2000. Vandrare i Södra Jämtlandsfjällen – underlag för översiktlig planering. Working paper 2000:12. ETOUR.”. These reports present the results of the study in detail and are recommended for those who are especially interested in the results. The focus of this paper is on methods and only some results will be presented.
Figure 1. The study area of Södra Jämtlandsfjällen
2. Need for data in recreation planning, with special emphasis on the mountain region

2.1 Introduction

In this chapter we will discuss the need for data in recreation planning, with a special focus on i) the situation today in the Swedish mountain region, ii) the need for data in different stages of a planning process, iii) problems caused by that inadequate data on recreation, iv) what knowledge is needed and v) the problem of legitimacy of methods and data.

Planning could be defined as “linking knowledge to action”. The fundamental basis for spatial planning is a truism – all human activities require space and vice versa; all activities can be controlled to some extent by allotting them a place in the space. This is the basis for functional separation of resource use conflicts.

Recreation and protected area planning has been dominated by the rational-comprehensive model, where the focus is on identifying goals, searching for alternatives, evaluating them and choosing the technically most preferred alternative (McCool and Patterson 2000). Assumptions of the rational-comprehensive model about the planning situation (such as that the decision-making power is held by one actor) that are typical for this planning paradigm have been heavily criticised both as norm and as reality.

The spatial planning discourse differs from the nature conservation discourse in two dimensions: Whereas the nature conservation discourse comes from a tradition of "calculating rationality" and a scientific, central general view that points out the foremost values - "riks-intressen", national parks, world heritage areas – the basis of Swedish spatial planning is a conception of local, political decision making. One, often hidden, valuation – from the point of view of conservation – that affects the discussion about the use and protection of nature, is that any change is seen as negative (Emmelin 1997). In addition a close linkage is often assumed between recreation and environmental issues (Emmelin 1997).

Planning has instruments for regulating the urbanised environment – the roots of the spatial planning are in the controlling of the city (Hall 1981). Into this should then be added the spatial instruments of nature conservation: nature reserves where unaffected nature is supposed to live its own life. Nature conservation has a goal of preserving the “natural” landscape in a state of stability, whether the stability is seen as a natural, harmonic stability or from the modern ecology point of view as a temporary state that is affected by external and internal forces. Coming problems that we face in the Swedish mountains between the two poles: balancing interests that are in more or less pronounced competition with each other in a cultural landscape that is neither a landscape of planned artefacts, nor the “natural landscape” of nature conservation. Con-
Conflict solving through a functional separation in space is in most of the cases made difficult by a number of valuation problems.

One of the major pitfalls of modern conservation work has been repeated attempts at developing and implementing universalistic expert-driven frameworks without paying sufficient attention to local conditions and the need for adaptations (Kaltenborn et al. 1999).

The Swedish mountain region is an area where spatial planning has traditionally been based on a natural science basis. At the same time it is clear that mountain planning\(^\text{12}\) is planning for and of outdoor recreation. The commission to produce a “mountain plan” that was given to the Swedish Environmental Protection Agency included tourism (Emmelin 1997). The idea of a single actor managing the mountains is problematic. In reality there are several actors that are “competing” for the resources in the mountains on several arenas. Because it is only the detailed synoptic plan that is legally binding, the arenas for coordination are often ad hoc, such as project groups, or sectorized; for example the regional economic work of the county administration boards that is not necessarily coordinated with nature conservation, environment protection, management of hunting and fishing etc. Planning often seems to assume that there are competent authorities with both responsibility and resources for resolving the problems. This is seldom the case (Emmelin 1997).

In the Government proposal to Parliament ”Om hållbar utveckling i landets fjällområden” (On sustainable development in the mountain region 1995) a need for better planning and concrete actions in the Swedish mountains was expressed. This together with a better dialogue about sustainable development was seen as important task for the municipalities. The municipal synoptic planning was seen as a suitable platform for developed and coordinated mountain planning.

Planning in the Swedish mountains sets new requirements for the general information that the county administrative boards have responsibility for providing to municipal planning. The available information is not detailed or adequate enough to be used in planning (Alexandersson 2000, Heberlein et al. 2002, Emmelin 1997). This information must furthermore be adapted and focused on the questions that are to be solved in each area. It is however important to see the difference between planning and management; planning deals with changes in land use while many of the conflicts that are to be handled via management are conflicts of existing land use. Planning needs to be complemented by active management and it is important to create models for local conflict resolution.

Saarinen (2000) categorizes research problems in protected areas and points out the target groups for different kind of problems as follows:

\(^{12}\) Planning in the Swedish mountains will be called mountain planning from now on
Table 1. Research problems in protected areas (Saarinen 2000).

<table>
<thead>
<tr>
<th>Type of problem</th>
<th>Current research problems in use and management of recreation areas</th>
<th>Theoretical and long term research problems</th>
<th>Research problems pointed out in legislation or agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problems that arise from management and use of recreation areas</td>
<td>Academic and large well-known problems</td>
<td>Research problems defined in legislation or agreements</td>
<td></td>
</tr>
<tr>
<td>Why</td>
<td>Research is needed to solve existing problems</td>
<td>Academic and/or public need for knowledge</td>
<td>Law and agreements oblige to carry out research</td>
</tr>
<tr>
<td>For whom</td>
<td>Managers of recreation areas</td>
<td>Academic community, political and social decision-makers</td>
<td>Society and parties defined in legislation and agreements</td>
</tr>
</tbody>
</table>

2.2 Need for data

Management of outdoor recreation areas has often two goals; i) to maintain natural conditions and ii) to provide opportunities for recreation. These two goals may become contradictory. Outdoor recreation continues to increase, and the potential for disturbance is growing internationally, for example in the USA the increase in mountain protected areas has been as much as 12-fold since 1945 (Cole 1996, Denniston 1995). This is not necessarily the case in Sweden (Heberlein and Fredman 2000, Heberlein et al. 2002) but illustrates the potential dynamics.

According to Freimund and Cole (2001) the use density is increasing faster than per capita-impacts are decreasing and social and ecological impacts will increase without use limits. Denniston (1995) suggests that recreation and tourism activities are surpassing the resource extractive economy as the single largest threat to the preservation of mountain ecosystems. This is why: i) the management of wilderness visitors must have a priority and ii) the manager must have reliable information on visitor use to be able to make effective and right management decisions (Watson 1990). In Scandinavia recreation has previously been described mainly as existing services and infrastructure and with little focus on users themselves (Emmelin 1997, Sievänen 2001). Visitor studies are most needed in areas that are visited by large number of visitors/tourists because conflicts within outdoor recreation and between outdoor recreation and other land uses most probably occur in these areas (see e.g. Kajala 2001).

In general, use measurements have two aspects: i) an inventory of human uses that provides a baseline for planning and management, and ii) a means of determining how human use and resource conditions of the wilderness are changing (Lohnes 1992, Watson et al. 2000). Use measurements are also central in handling conflicts. Such
conflicts may be both those already existing and such that can come up as a result of activities in the area and changes in society in general. This means that data should never be collected without connection to the planning process and its form and contents, present situation and development.

Methods tend to reflect some special need of management or research (Yuan et al. 1995, Recreation site survey manual… 1988, Publikumställinger i naturområder… 1995). Data collection is however often determined by existing techniques. So was in many ways the case in so the Swedish mountain plan (Emmelin 1997).

There are big differences between different visitors in the mountains. Their needs and interest in different nature experiences, their tolerance towards crowding and contacts with other users vary a lot. It is important for planning and management to find out which qualities users are looking for and appreciate and to have a clear picture of the variation between different users and user groups.

Visitor use is often inadequately measured. McClaran’s and Cole’s (1993) survey of wilderness managers in the USA shows that 63 percent relied on “best guesses” to estimate the visitor use. The situation is hardly better in Sweden: there is little tradition in measuring the use of recreation and nature areas and those few surveys that have been carried out are not coordinated and seldom have had a goal of covering the use of the entire area.

Watson et al. (2000) give several reasons for why wilderness use is not assessed adequately:

- Difficulty in quantifying and measuring wilderness use. This can be caused by lack of funding, logistic problems, amount of resources or the type of use.
- Little or no coordination across the wilderness areas.
- Lack of quantitative and practical skills.
- Lack of decision-making and judgement skills.

One fundamental problem has been the lack of data over time. Environmental Impact Assessment (EIA) and spatial planning thus become depended on data from a single measurement. Different ways to compensate this lack are therefore essential. Even if there is data on certain developments it is important to notice that development of one visitor group or activity can depend on shifting between different groups, something that can be hard to analyze.

Quality wilderness use data is absolutely essential for examining and testing various tenets, principles and dogmas of wilderness management; for optimal management of the resource, it is critical to distinguish management principles which have been empirically verified from those which have never been tested, and are based on nothing more than “authoritative opinions” (Cole 1996).
2.3 The need for data in different phases of planning process

Data on outdoor recreation is needed in many phases of the planning process: environmental impact assessment, spatial planning of and for utilization and management of the area and for the implementation of the plan. It should be noticed that preservation of an area also is a form of utilization that may need active management actions that lead to demand for data. One important difference lies in if data is supposed to show the state of things ex ante (impact assessment and planning) or ex post (management that can imply supervision, follow-up or revisions of a plan) as shown in table 2.

Table 2. Planning process and the need for knowledge (Emmelin and Vuorio 2000)

<table>
<thead>
<tr>
<th>Moment</th>
<th>Purpose</th>
<th>Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Impact Analysis</td>
<td>Environmental impact assessment</td>
<td>Data on environmental effects</td>
</tr>
<tr>
<td></td>
<td>Prediction of the pressure on the natural resources</td>
<td>- ware</td>
</tr>
<tr>
<td>Spatial planning</td>
<td>Preservation</td>
<td>Base-line data</td>
</tr>
<tr>
<td></td>
<td>Arrangements for outdoor life</td>
<td>Demand</td>
</tr>
<tr>
<td></td>
<td>Development of industries</td>
<td>Reactions on the changes</td>
</tr>
<tr>
<td></td>
<td>Handling of the resource conflicts</td>
<td>Status indications</td>
</tr>
<tr>
<td>Management</td>
<td>Implementation and follow-up of the plan</td>
<td>Supervision of the goals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fulfilment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Limits of Acceptable Change (LAC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recreation Opportunity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spectrum (ROS)</td>
</tr>
</tbody>
</table>

Data that make predictions of reactions to different management actions possible is crucial for all planning and for environmental impact assessment. Data that includes only figures showing gross volumes of use have limited value. More sophisticated data drives up the need for precision and thereby the need for resources for data collection. Important for method development of studies on outdoor recreation and nature management has clearly been the differences in views on which factors govern and thereby predict the consequences of the development.

The need for data is however not only goal-oriented. Ideas of what kind of data is needed depends on problem framing, available strategies etc. and thereby come from ideas within different disciplines, professions and management cultures (Emmelin and Kleven 1999). Sandell (2000) has analysed how a national park process has been associated at the outset with different interests and uncertainty of the goal, interest groups and conflicts has thereby been created.
Research on outdoor recreation in North America has had as a goal to satisfy the recreational needs of the public, also in different commercial forms. In the USA funding of the management authorities have been motivated by the level of use. This has led to the development of different methods for counting visitors in the areas with more or less controlled admittance (Emmelin 1997).

Planning that aims at to secure satisfaction for different groups has led to development of methods for studying patterns of use and different functional methods for differentiated planning, especially the so called ROS-method. For a long time the focus had been on an extended carrying capacity concept and that the main problem was experienced crowding (Shelby and Heberlein 1986).

In the Nordic countries data on outdoor recreation has been associated with large interferences with nature. There have been several cases in Norway where the aim has been to bring in outdoor recreation in the environmental impact assessment in the large oil projects on the Norwegian continental base (Kaltenborn and Vorkinn 1993, Aas and Aasetre 1994). Later the Norwegian Directorate for nature management has produced a method hand-book for studies on outdoor recreation (Direktoratet for naturforvaltning 2001). In Sweden Vägverket¹³, (The National Road Authority) has started work on a hand-book on outdoor recreation in EIA. In Finland a manual for visitor studies has been developed to standardize the studies and to make it possible to compare results from different recreation areas (Erkkonen 2001, Erkkonen and Sievänen 2001).

In the Swedish planning for nature conservation outdoor recreation has been studied very little as a basis for management actions although they have been motivated with outdoor recreation. Even if the so called mountain plan ("Fjällplanen") was inspired by the ROS-model, it was only inventories of flora and quaternary geology and to some extent fauna that were done (Emmelin 1997). An early study applying the ROS-methodology built on a thorough collection of recreation data was carried out in Sweden by Wallsten (1988) as a part of “Femundsmarka-Rogen-Långfjället” project. The recently opened Fulufjället National Park is the first example of an official application of the ROS-concept in Swedish mountain planning (Naturvårdsverkets föreskrifter för Fulufjällets nationalpark 2002).

In EIA it is an established principle to use existing and available data as far as possible. The lack of earlier studies forces planning to be based on data that is collected during a short period of time. Therefore indirect methods are often used. Predictions can be based on direct hypothetical questions about reactions on changes or they are made with a help of available data basis on attitudes and behaviour. There is a strong tradition within research on outdoor recreation to use different variations of Ajzen’s and Fishbein’s (1980) models for making predictions on changes. This means that users of an area are seen as rational participants that are trying to achieve relatively clearly defined goals.

¹³ A draft has been produced by Lennart Bäck, Uppsala universitet
2.4 What knowledge and what legitimacy is needed?

2.4.1 Introduction

Various landscape perspectives – involving both mental landscapes "mindscapes" (Hägerstrand 1991) and actual use and behaviour – are to be found with regard to a specific physical landscape (figure 2). It could be the differences between the local residents and the tourists; between the preservationists and the foresters; between the cross-country skiers and the snowmobile tourists etc. In addition, these different landscape perspectives change over time due to for example external influences and technical development. Also they could, at least to some extent, be different for the same person or group in different contexts. This means that discussing the need for knowledge that could feed the spatial planning process the point of departure must be taken in questions of what knowledge and whose legitimacy is to be looked for.

To a large extent planning is carried out with a specific, but often implicit, perspective in mind forming the type of knowledge and legitimacy needed. If for example the high mountains in Sweden are seen mainly as a region of interest for its contribution to global biodiversity the need of knowledge could be fulfilled by biologists demarcating the important areas to be protected. But if the high mountain region is seen mainly as the home district of the indigenous Sámi people the inventory by the biologists will only form a very little part of the need of knowledge for spatial planning and will have a limited legitimacy among the main group of interest. Furthermore legitimacy among the Sámi people is no reason to believe that the knowledge collected is seen as legitimate by e.g. tourist authorities. The “triangle drama” (Emmelin 1997) between conservation, outdoor recreation and tourism is a typical example of how different themes and groups are linked to different perspectives. What type of knowledge for a planning process that will be seen as legitimate therefore is a reflection of what landscape perspective is taken as the point of departure for the planning process.

The current tendency to ask for more of a communicative planning approach and more of a "bottom-up" perspective in the planning process, here involves two major shifts with regard to what type of knowledge and whose legitimacy it is necessary to ask for. First, in line with the previous discussion, there are now to some extent new themes and new groups that have to be taken into consideration with regard to what should be investigated (also of course involving a discussion of what type of methods that are suitable). Secondly a planning process more in line with communication and bottom-up must involve the fact that also not previously known themes and groups could be manifested as an outcome of the investigation. In other words, the planning process must include openness for what values (attitudes, activities, groups) that have to be taken into consideration with regard to the need of knowledge and legitimacy.
Out of this it is essential not only to look for what type of landscape perspectives (themes and groups of interest) traditionally are asked for by planning authorities and the like – but instead to look for what are plausible general patterns of landscape perspectives to look for. Of course there are various answers to such a question but one answer with a great deal of analytical power is the conceptual framework of different eco-strategies introduced below. It is important to note however that the term "strategy" here is used as a description of attitudes and behaviours not always necessarily intentionally chosen, but could to a large extent be seen as an outcome of time-period, type of society and more individual contexts like occupation, education and place of residence. Also it should be noted that the prefix "eco-" does not involve any normative aspects like in "eco-development" but is only indicating that it is the man-nature/landscape relationship that is focused upon (see further in e.g. Sandell 1988 and 2001).

Figure 2. Various landscape perspectives – involving both mental landscapes "mindscapes" (Hägerstrand 1991) and actual use and behaviour – are to be found with regard to a specific physical landscape (Sandell 2000).

2.4.2 A conceptual framework of eco-strategies

When constructing general conceptual frameworks for discussing different landscape perspectives, we commonly identify a dimension between the strategies of domination vs. adaptation with regard to human views and use of nature (see e.g. Sandell 1988). A similar division with regard to regional development has been suggested by Friedmann & Weaver (1979) using the concepts "functional" and "territorial" development. In many ways, this is parallel to the dichotomy between centralised and decentralised systems (e.g. Hjort af Ornäs & Kroksfors 1992) and with regard to out-of-doors the concepts of "activity involvement" vs. "place attachment" (see e.g. Meyer 1999). A major effect of this approach is that various aspects of social integration (politics,
Economy, and culture) are brought into focus together with the human-ecological issues.

Even though the illustrations below focus on the spatial dimension, it seems reasonable to assume that the content of and potential for a more territorial development is to a large extent a question of permanence. The basic point of departure for the orientation along this dimension between "functional specialisation" and "territorial adaptation" is a question more of identity than of e.g. formal residence. This means that when using the term "one’s home district" below it refers more to perceptions of sense-of-place, roots and place identity, than formal residence only – a dimension that probably will be even more important in a further globalized future (Macnaghten & Urry 1998, Massey and Jess 1995). It is also important to note that in practice all eco-strategies (view and use of nature) are composed of various elements that could be more or less linked to the principally different eco-strategies described here. In addition to this dimension it is important to include the general tension between the strategies of active usage and change vs. passive admiration and contemplation of the landscape. Out of this the conceptual framework of different eco-strategies is organized according to the following two dimensions: i) the two strategies of functional specialisation vs. territorial adaptation as discussed above; and ii) the two strategies of active usage vs. passive contemplation (figure 3, see further in e.g. Sandell 2001).

![Diagram of eco-strategies](image)

Figure 3. The conceptual framework of eco-strategies with the labels of four quarters to be used in the discussions below (Sandell 2000).
With regard to the type of landscape relations involved in phenomena such as outdoor recreation, conservation and nature tourism, we may basically describe the four eco-strategies as follows:

- An eco-strategy in line with an active usage of the landscape and in line with functional specialisation. Here the activities are the point of departure and the landscape is improved in various ways to fulfill the need of these activities. It could be argued that the landscape is looked upon as a "factory" rearranged for the production of adventure. Special areas, equipment and organisations are established for these specialised outdoor activities like slalom slopes, put and take fishing ponds, and in its extreme forms fully designed adventure lands. Long-distance travel and heavy use of material resources are often involved.

- Also the passive contemplation of the landscape in line with functional specialisation takes the point of departure in special functions looked for in the landscape. But here these functions are characterized by the strategy of "freezing" ("conserve") a specific landscape (and maintaining that "frozen" landscape) also for example sometimes including the "non-intervention" strategy of preventing all cultural influences. Landscapes are to be "set aside" for the sake of, for example, biodiversity, nature tourism or science. Activities like hiking, excursions or cross-country skiing are characterised by that the landscapes generally are interchangeable with each other (if I am diving here this vacation I will probably dive at another place next time). The landscape is looked upon as a "museum" for these special interests and the spatial planning could use the interest that has been given top priority as the ordering principle for handling different conflicts. This eco-strategy is a well known approach in man's relation to nature and landscape in terms of tendency to designate areas as "reserves" (e.g. national parks), where the main strategy is to decide what is the preferred landscape (e.g. a "wilderness" without cultural traces, or a "pasture" with cattle, small villages etc.).

- An eco-strategy in line with active usage of the landscape in terms of territorial adaptation originates in the perspective of "one's home district to be utilized" (but, as mentioned above, more in terms of what is perceived as home district than actual place of residence or work). Here, as in the strategy of passive territorial eco-strategy discussed below, the interest is directed towards the features of the local natural and cultural landscape – the topography, the season, the history etc. But the eco-strategy of active adaptation also involves direct utilisation and change of the landscape – firewood, fishing, hunting etc. Outdoor recreation here is one out of many locally integrated aspects of one's home district. Also, in line with this eco-strategy – from the entrepreneurs' point of view – we will find a great deal of the rhetoric with regard to ecotourism and small-scale locally based nature-oriented recreation as regards activities (where the tourists are "invited" to one's home district).

The strategy of "passive contemplation of one's home district" involves appreciative activities like bird watching, cross-country strolling, looking for flowers etc.; but, compared with the museum strategy, these activities are subordinated to and inte-
grated in the local landscape. The characteristics of "your" landscape (forests, mountains, coastline etc.) in combination with the season, the weather etc. directs your interest to skiing, climbing, picking mushrooms or bathing etc. In line with this eco-strategy we have many aspects of the sense-of-place that is linked not to utilization of an area like forestry or agriculture (i.e. in line with a home district to be utilized) but to just living there or being associated with the landscape. This is a landscape perspective often linked to long continuity perhaps involving deep roots in terms of relatives and memories.

2.4.3 The framework used for some major planning issues

In the figures showing the conceptual framework of eco-strategies the different strategies may appear to be clear-cut categories, in reality, of course, it is a question of tendencies and blends involving a greater or lesser degree of passive vs. active use of landscape, and of functional vs. territorial strategies. Nevertheless the tensions between different eco-strategies could clearly be found in various cases (cf. the term "ideal types" in social science). In figure 4 below as an example the often occurring struggles concerning national park proposals are analysed (for an example see Sandell 2000), and in the next figure (figure 5) the position of the Nordic tradition of right of public access is illustrated. (For further examples of the application of this conceptual framework see Sandell 2001.)

Figure 4. The conceptual framework used to illustrate the conflict between the traditional national park perspective in Sweden and the local opposition (Sandell 2000).
2.4.4 What knowledge and legitimacy to whom?

Of course not all types of information nor all individuals and groups could be involved as a basis for spatial planning procedures – there has to be a selection and a prioritization and a major element in this prioritization process is the current state of overall political emphasis. Therefore, for example, the shift of approach in the case of a proposed national park in the Southern Jämtland (further discussed below) not only involved a shift in what type of knowledge and whose legitimacy the spatial planning process had to be looking for. But this shift towards a more territorial approach was fully in line with, and linked to, a more general trend toward an interest to handle conservation and nature tourism planning on a more local basis. – A general challenge for what knowledge and whose legitimacy there has to be suitable methods for.
3. Collecting data on outdoor recreation and tourism visitors

3.1 Introduction

A large number of methods have been developed for collecting information on outdoor recreation and tourism. We will present and discuss the most common ones that, as we believe, can at the same time be seen as the most suitable for studies in the Nordic mountain environments. A short discussion of monitoring processes and different variables to measure is followed by a presentation of different methods and their advantages and disadvantages.

3.2 Statement of objectives

It is essential to describe why measurement of the area is to be performed. A statement of objectives will direct the whole project by defining both the type of information that is to be collected and the purpose for which it is collected. Contents of the statement may however be updated during the planning process.

Objectives are not a summary of methods, numerical goals or measurement techniques. Instead it is an identification of a specific management problem in terms that allow some assurance of its solution (Watson et al. 2000, Ackoff 1953). The visitor use measurements is carried out to resolve or to help resolving the identified problem.

3.3 Visitor use characteristics

3.3.1 Introduction

The decided objectives determine what observations that must be carried out. Chosen characteristics must characterize the wilderness use as it is defined in the study objectives. Visitor use data is either quantitative or categorical. Quantitative data is usually presented as visit counts. Other types of visitor data are often a combination of categorical and quantitative information. Visit attributes describe the visits, for example activities, length of stay etc. Visitor attributes describe the visitors, for example preferences and demographics. Watson et al. (2000) use even summary use statistics that combine the characteristics of the visit with visit counts.
3.3.2 Visit counts

Visit counts can be divided into individual visits and group visits. Number of single-person visits is the most commonly used measure. One visit is counted as one person entering the area. Group visit data can be useful for managers in the areas with high number of groups. Although a group can have arrived in the area by several vehicles and not exactly at the same time, it is likely that they are using same camp sites and spending most of the time together. One impact that is particularly attributed to large groups is expansion of campsite boundaries (Hammitt and Cole 1998). In our study in Södra Jämtlandsfjällen the individual visits was the basis, but even the group size was studied to give better understanding of the patterns of use.

Every area has visitors that should not be registered as visitors. They can be people working in the area (park employees, forest workers etc.). Even people passing through should be handled separately. It is however important to account for the total number of persons because in most cases the impact of users on ecosystem is one of the factors that are supposed to be measured.

3.3.3 Visit attributes

Visit attributes describe visits, either quantitatively: for example date of arrival, group size etc. or qualitatively: activities, use of services etc. What should be monitored and studied depends on the area and the objectives of the study. Miscellaneous visit characteristics give additional information about visits, for example in case study in Södra Jämtlandsfjällen questions about number of people hiking outside the marked trails and the number of dogs brought.

3.3.4 Visitor attributes

Data on visitors is important from many aspects. Visitors’ behaviour is affected by for example background, education etc. and by, their perceptions of wilderness and its management. Better understanding of visitors is crucial when choosing planning priorities or when choosing different ways to inform visitors and influence their behaviour. This is especially important because of the possible differences between visitors and managers in their tolerance and attitudes towards different management actions (see e.g. Vistad 2002). Studies have also showed that different types of user groups produce different types and amount of impacts (Hammitt and Cole 1998). Sociodemographic characteristics, such as age, sex, type of employment etc. are the most commonly used basic variables. Other attributes can be level and type of past experience, knowledge of wilderness conditions and attitudes toward and preferences for different management practices.
As discussed earlier, one of the central issues in planning is the problem of predicting responses and reactions of different user groups to plans and management actions. Planning and impact analysis has needs for certain types of knowledge while monitoring may need other kinds of information in order to understand discrepancies between predictions and actual reactions and responses.

In spatial planning, a functional separation of activities as a means of conflict resolution normally implies that one or several user groups may have to adapt to changes in activity, temporal or spatial use pattern, etc. The separation of skiers and snowmobilers is a case in point; access to certain areas will change for one or both groups (see e.g., Denstadli et al. 2001). The encroachment on reindeer grazing lands by many activities such as hydro-power development, mining, road building, etc., has been a major problem in some areas. Understanding the combination of temporal and spatial pattern of conflict is important but also a complex problem to handle for spatial planning since normally only the spatial patterns can be handled with planning instruments. Temporal patterns are more a matter for other types of regulation and management. Functional separation, i.e., setting aside areas where one land use has priority, is as we have noted above the normal but often blunt instrument available. To introduce more sophisticated spatio-temporal management of conflicts presupposes a more complex understanding of responses.

3.4 To segment the users – the purism scale

Users’ attitudes have been seen as central for how they react on different management actions (Kaltenborn and Vorkinn 1993, Manning 1999). Segmentation of users with the help of different attitude scales has been used for guiding planning towards differentiation in space to be able to satisfy different types of users (Kaltenborn and Emmelin 1993). Fredman and Emmelin (2000) showed that a combination of attitudinal segmentation of users and a study on willingness to pay gives interesting information about differentiation in space according to the ROS-model for planning. There has however been a certain trend of using activities as a basis for planning and management during the recent years (Mowen et al. 1998).

It is quite obvious that outdoor recreationists and tourists have different interests and needs concerning “nature without human influence”, that their tolerance towards crowding, contact with other people and that their idea of untouched nature differs a lot. From a scientific point of view it is interesting to study different individuals’ and groups’ attitudes on wilderness and wilderness experience. For management and planning it is very interesting to know what kind of qualities people are looking for and appreciating. Tourism industry that is supposed to be based on wilderness experience should have a strong interest to get a more varied picture of customers’ attitudes and expectations.
In practical management and marketing simplifications are needed. Using average values is unwise – they often hide interesting and useful information. Moscardo et al. (2001) and McVetty (2002) discuss visitor segmentation and state that it should describe visitor use reliably in several dimensions, producing segments that are: homogeneous, durable, measurable, responsive, relevant, accessible, substantial and compatible.

There are a large number of classifications that are used in studies on outdoor recreation. Sociodemographic segmentation of visitors has been widely used and these variables, for example sex, age and income, are useful to some extent (see e.g. Manning 1999). If the users are instead segmented after behaviour or motives the methods are usually called psychographic segmentation. The psychographic segmentation can be based on either visitors answers to variables that are defined in advance (for Scandinavian examples see e.g. Aas and Vorkinn (1991) and Vistad (1992) or the criterias that distinguish between different user groups can be determined with a help of statistical analysis (for Scandinavian examples see e.g. Kleiven (1992), Lindberg et al. 2002, Miettinen and Horne (1999), Sievänen (2001) and Vistad and Vorkinn (1992)).

An interesting and at the same time practical classification of users is to look at the most sensitive, the most tolerant and the group between them separately. In the international literature the most sensitive group is often called “the purists” concerning the wilderness experience. Purists have high demand for areas with wilderness characteristics and they react strongly even for moderate disturbances. They want to be alone in the nature, or at least have an illusion of it, and they do not want to see other people or the signs of use of the area. They want especially to be alone at the camp sites and to have a freedom to put up their tents where ever they want: the feeling of freedom is important for the experience. The term for the opposite group is “the urbanists”. The urbanists have a higher tolerance concerning other users, for example along the hiking trail they can experience meeting other users as positive. They do not only tolerate different settings but also want to have different forms of service. Between these two groups there is a large group of ”neutralists”.

By asking a set of questions about different indicators for unspoiled nature or wilderness characteristics it is possible to get a good picture of individuals’ preferences on a purism-scale. Characteristic questions are for example about visitors’ attitudes towards marked trails, huts, other visitors, different restrictions etc. The object is to get a picture of visitors’ general ideal, not only expectations on a certain area. The purism scale is a one dimensional addition of answers on all these questions.

14 Cf the classic article in outdoor recreation research “The average camper who does not exist”; Schafer 1969.
4. Methods for collecting information on recreation and tourism

4.1 Introduction

Outdoor recreation participation can be either monitored when it takes place, or the aim can be to estimate outdoor recreation participation in general or in the future. Because this paper has its focus on methods used in the field, not on different estimation models, the latter will be discussed only in short.

Basic information on outdoor recreation can be collected by going through already existing data, such as lodging statistics, data available at the municipalities and the county administration boards and by interviewing officials that are working with the area of current interest. This kind of data is seldom sufficient, but is of good help when planning a monitoring project. In the US with the longest traditions of visitor management the problems and needs have been slightly different from those in Scandinavia which is evident in method development (Manning 1999, Yuan et al. 1995). Many of the methods are however useful in Scandinavia. It is important to choose methods that are compatible with other data from other sources. For studies in Scandinavia, see e.g. Aas and Vorkinn 1991, Bäck and Bäck 1986, Bäck and Hedlund 1983, Denstadli et al. 2001, Emmelin and Iderot 1998, Emmelin and Ohlsson 1999, Erkkonen and Sievänen 2001, Fredman and Hörnsten 2002, Kaltenborn and Vorkinn 1993, Lindhagen 1996, Lunde 1996, Meyer 1991, Miettinen and Horne 1999, Odden 1995, Wallsten 1988, Vistad 1992 & 1995, Vistad and Vorkinn 1992.

The counting methods can be classified as follows (see e.g. Yuan et al. 1995). The methods will be described and discussed in chapter 4.5.

1. mapping of physical traces
2. mechanical/electronic counters
3. counting of access permits and tickets
4. documentation and self registration
5. manual observations
6. questionnaires
7. interviews
8. indirect observations

4.2 Problems and ethical aspects

People visiting nature areas, especially remote areas do not expect to be watched. They seek peace and quite and may even escape urban environments partly to avoid social control. This may not be a problem as long as visitor monitoring is based on volunteer registration, although it may affect the percentage of visitors registering
themselves. Use of cameras or video can be experienced as violation of privacy. One possibility is to place cameras so that individuals cannot be identified, only counted (see e.g. Muhar et al. 2002, Arnberger and Brandenburg 2002). The use of such methods is governed by very strict legislation in Sweden and would for many purposes be ruled out.

Counting devices can be vandalised. They can be totally destroyed or manipulated. Counters should be hidden as well as possible and placing of for example self registration stations should be considered well.

4.3 Validity, legitimacy and other factors affecting the choice of methods

One problem with visitor studies is the representativity of data. Size and type of the whole population is seldom known which makes it hard to estimate the sample size and its representativity. It is important to register even some external factors that can affect the visitors and their activities. These can be for example special events, weather or special campaigns. Even holidays should be registered.

Legitimacy of the knowledge base for spatial planning is a complex mixture of views on the processes of acquiring data and knowledge and views on the legitimacy of different actors to express views and to participate in decisions. The positions defined by the eco-strategy model (see above and further in e.g. Sandell 2001) gives insights into both these aspects of legitimacy. A case in point is the view expressed by the Sámi reindeer herding representatives in the case of Södra Jämtlandsfjällen on who should collect data on camping.

An interesting illustration to the problem of legitimacy of knowledge for planning was the issue of whether camping outside the immediate vicinity of trails and mountain huts has increased. As part of our user study it was agreed that an aerial survey of tents should be made several times during the summer. The county conservation administration offered assistance, having a plane and pilot available. However the representatives of the Sámi villages very forcefully claimed that they would place no reliance on data collected by the regional conservation authorities. They demanded that the data collection be done by ETOUR personnel flying with helicopter pilots experienced in reindeer herding. The fact that inventories with fixed-wing aircraft flown by experienced conservation officers living in the region would be more cost effective and allow much more data collection was no argument in this case as it would be if scientific reliability were the most important criterion for legitimacy of knowledge. It was agreed to complement the helicopter surveys with the aircraft surveys. Although the local knowledge and spotting ability of the helicopter pilots was formidable we have no indications from the ground controls that there is a significant difference in the reliability of the data collected by the two methods.
This example shows that even the alternative method affects the legitimacy of the used method. The legitimacy was also affected by the actors - although we were neutral in our role as researchers, it was obvious that the county administration board, representing the central power, would have reduced the legitimacy of the study. This illustrates the problem that different groups can have different views on the legitimacy of a given method or set of data.

4.4 Where and when to monitor?

The choice of the place for monitoring is often affected by practical things, such as electricity supply, security, and distances. It is often easiest to “catch” the visitors at the entrance points (trail heads, parking lots etc). The entrance points often give a good picture of visitor flows in and out of the area. This includes some problems: Over-representation of short-time users, lack of information on the use and the visitors in the core areas. Muhar et al. (2002) point out the importance of visitor monitoring in the core areas if the aim is to quantify interactions between visitors and the ecosystems. They also point out the importance of pre-tests if there are a large number of entrance points to the area. The practicality of such pre-testing can however be questioned in many planning situations with limited time available.

Covering all the seasons is necessary for understanding the dynamics of recreational use of the area. This does not mean that every single visitor has to be recorded; use of good sampling techniques makes it possible to cover longer periods at reasonable costs. This is of course not possible everywhere. Covering only the peak periods usually gives misleading information if monitoring results are used for predicting the visitor flows during the whole season. It is not only the visitors that determine the choice of monitoring period. As important may be the spatial and temporal patterns of conflicting resource use. Reindeer husbandry is one example of other activities that are affected by outdoor recreation and it is important to cover periods when there is risk for conflict. The sensitiveness of both flora and fauna is varying depending on the time of year. Even small number of visitors can have a strong effect during this kind of sensitive periods.

4.5 Description of the methods

4.5.1 National screener surveys and projections of outdoor recreation

If outdoor recreation is supposed to be estimated, not monitored (i.e. when it takes place), there are several methods to choose from. One example is the national screener surveys. In this method a random sample of the whole population is interviewed about for example their recreation activities, visits to certain areas etc. This method was used for example in the study of patterns of mountain tourism in Sweden.
(Heberlein et al. 2002). This is quite easy in Sweden, because of the existence of the comprehensive data register of inhabitants from which a suitable sample can be taken. This is a cheap and effective way to get a rough picture of peoples’ leisure habits in the whole country or in a chosen area. One problem can be that what really is measured is participation, not demand. Another problem is that they concentrate on the activity, not the meaning of it for the respondent (Manning 1999). If too much attention is paid to the activity itself there is a risk of ignoring the fact that different activities can compensate each other and fulfil the same needs.

The aim of projections of outdoor recreation is to estimate outdoor recreation participation in the future in a certain area. Regional cross-sectional models have been used in the USA in several projects (English et al. 2001, Hof and Kaiser 1983, Walsh et al. 1992). One method is a logistic regression model where individuals answer yes or no to different behavioural questions. The model is used to estimate the probability of that an individual will participate in a given recreation activity based on the recreation opportunities near the individuals residence and on the individual’s characteristics. Several studies show that availability of recreation resources is important in estimating whether and to what degree individuals recreate. Results are then combined with population information to obtain estimates of the total number of recreation participants in an activity in the region.

### 4.5.2 Mapping of physical traces

By using physical traces it is possible to get information on the past use of an area (Manning 1999). There are two types of proof: erosion and wear or waste. They are useful measures of frequencies of use, the spatial characteristics of use and level of use. It is however important to find out the relation between wear and amount of use. Using footprints is sometimes possible as it is done in wildlife monitoring. This can be possible in areas with low use levels. Use of sand beds is one technical possibility. The biggest advantage of this method is the objective nature of the results. Disadvantages are for example that the nature of the physical evidence can vary randomly during different periods of time and places. The representativeness, reliability and generalibility of results are quite low. Mapping of physical traces is usually used together with other methods to give additional information.

There is a large literature on different methods for measuring the physical environmental factors. Hammitt and Cole (1998) and Manning (1999) give a comprehensive exposition of different methods that can be used in different natural environments. See also Monz (2000) and Hendee et al. (1976). For methods applicable to the Swedish conditions see for example Emmelin and Iderot (1999), Wallsten (1988) and Vistad (1995). Sievänen (1989) has measured the spatial distribution of outdoor recreation in areas close to urban environments with the help of naturally born (i.e. not build) trails.
4.5.3 Mechanical/electronical counters

Mechanical/electronical counters can be used alone or together with other techniques. They are useful especially for measuring visit numbers. One limitation is the technical problems in nature environments without buildings and electricity. Counters require control to make sure that they measure that they are supposed to. They are often very cost effective. There are several types of counters that are used in different kind of outdoor settings (Cessford et al. 2002, Gasvoda 1999, Yuan et al. 1995, Watson et al. 2000):

1. Mechanical
2. Pressure sensitive devices
3. Seismic and vibration
4. Photoelectric counters
5. Devices measuring warmth or sound
6. Inductive loop sensors
7. Magnetic sensing
8. Microwave sensing
9. Other

Use of turnstiles is possible only in areas where entrance is limited to certain place(s). Number of visitors should be relatively high. There is a risk for over-estimation, especially if the devices are not guarded. Turnstiles can seldom be used in recreation areas in Scandinavia.

Different kind of pressure sensitive devices has been developed for counting visitors. These kinds of counters are mainly used for counting road traffic. Pneumatic tubes are one often used counter type. Advantage of devices used for counting vehicles is that cars stay on the road and are thus easy to register automatically. Observations of number of passengers per vehicle and share of visitors arriving to the area by car are needed. It is often necessary to estimate how many of the registered cars were actually there to visit the recreation area. Lindhagen (1996) points out the fact that many of the motorized visitors stay only a short moment, many of them does not even leave the car. Direct observations are a useful method for controlling the countings, even interviews can be used (Lindhagen 1996).

Bikers can also be counted by using pneumatic tubes, detecting hikers is more problematic. Several pressure sensitive plates has been developed, the best places for them are narrow bridges and in a step sequences.

Photoelectric counters can be used even in remote locations because they can be battery-supplied and have usually low energy consumption. Calibration and set-up has to be paid attention to. Wrongly installed counter will even register wildlife. It is important to control the results by observing the counting stations manually.
Countings can also be based on measuring warmth or sound. Another type is inductive loop sensors which can be used mainly for counting traffic. The signal is triggered by the movement of metallic objects. These methods have not been used widely in Sweden although there have been plans for monitoring snow mobiles by using inductive loop sensors.

Gasvoda (1999) has identified several problems with counters that are used by USDA Forest Service: 1. Accuracy, 2. Installation and sensitivity adjustments, 3. Maintenance and battery life, 4. Vandalism, 5. Poor workmanship, weatherization, and equipment malfunction, 6. Too expensive to purchase or operate, 7. Could not classify use, or distinguish human use from animals, 8. Interpreting data was difficult.

4.5.4 Counting of access permits and tickets

There is often already existing data on visitors that can be used. It can be lodging statistics, counting of vehicles or statistics on common traffic. The number of sold licences has been one way to measure outdoor recreation in the North America. This kind of indirect method must often be calibrated with factors that can be unknown or difficult to find out without field measurements (for example the number of passengers per car, bus or train etc.). One advantage with the indirect methods is the low costs. Another advantage is the possibility for comparison with other time periods and by that information on changes over time (Teigland 2000). Low reliability limits the usefulness of such indirect methods except perhaps as rough guides to changes over time.

4.5.5 Documentation

Documents are continuous or discontinuous statistics or other similar documents. The problem is that they are collected by someone else than the researcher. The advantages are the low costs and relatively simple data collection. Summit books, guest books at huts and books used for leaving information about the hike (färdmeddelande) are also useful sources of information. The reliability depends on the placement and type of the guest book, number of visitors, the weather and hut personal. Guest books are a valuable source of information in areas with low visitor numbers and highly dispersed patterns of use. They have been used for example in the wilderness areas in Northern Finland (Kajala 2000).

4.5.6 Self registration

Self-registration is a method that has been widely used in North America. The visitors are asked to give information about themselves and their visit in a notebook, on a form or by using a computer. It is usually a quite cheap and easy method but the rep-
resentativeness of the collected data is a problem. Self-registration normally gives large amounts of data but must be complemented with studies of non participation to assure the reliability of the results. A combination of self-registration and electronical or mechanical counters gives information on both the level and the type of use. This was done for example in Fulufjället (Fredman and Hörnsten 2002). Visitor registrations give base-line data and are suitable for supervision. They are not however suitable for making predictions and they do not give information about visitors attitudes. The self-reporting system is a good choice in areas used by a few visitors who are very interested in nature conservation subjects (Wallsten 1988). This is also an aspect of the “legitimacy problem” – participation is among other things a function of the perceived legitimacy of a study, a question etc.

4.5.7 Manual observations

One way to study outdoor recreation is to observe the phenomenon when it is happening. It is best suited for pre-studies, for example for estimating the sample size. There are two kinds of observation methods: 1. participating-simple-uncontrolled; 2. non-participating-systematic-controlled (Yuan et al. 1995). It is mainly the second one that has been used in studies in outdoor recreation. Manual observations are tied to time and place and its suitability depends on the type of the area and object of the study. The object of observations can be humans, parked cars, boats etc. Manual observations are often used together with self registrations as a control. The largest disadvantage using manual observations is that the number of observations give is high due to the large variance between different times of observation (Lindhagen 1996). Using fixed positions for observation can even be regarded with a great deal of scepticism. Lindhagen (1996) used a running observer when studying use of a forest area.

Fixed counting stations are usually used only for shorter observation periods. It is however possible to involve personnel working at souvenir shops, information desks etc. It depends on the infrastructure of the place and number of visitors how systematic this kind of observations can be. It is important to survey and describe the circumstances before deciding on which way data should be handled. This is also the case with use of roaming observers. They can be park personal or others working in the area. Their observations can usually be used as additional information unless their roaming in the area is set up systematically (Muhar et al. 2002).

Manual observations have been tried even in larger areas with similar methods to the observation of large mammals. Keirle (2002) used randomly chosen grid squares to investigate recreational activity in a 466 square kilometre area of Mid Wales. Each grid square was surveyed three times during the survey period. This kind of methods can be useful if the aim is to study areas that are too large to be covered totally or where sampling for a specific activity etc is the object.
4.5.8 Questionnaires

Methods that not only give information about patterns of use are needed to be able to measure visitors’ attitudes towards an area, activity, management, service etc. Questions about attitudes, satisfaction and experiences are often central in questionnaire studies. Such methods are for example mail surveys (see e.g. Dales et al. 1993, Yuan et al. 1995; Recreation Site Survey Manual 1983, Pigram and Jenkins 1999, Mitra and Lankford 1999). Even evaluation of photographs can be used as a method when comparing different management alternatives (see e.g. Lyytikäinen 2002 and Vistad 2002).

These kinds of studies are common in the USA where visitors are first contacted in the area during their visit and some basic information is collected. They are also handed a larger questionnaire that they are asked to mail back or the questionnaire is send to them by using the address information that the respondents have given during the interview. The advantages are relative low costs and a possibility for getting large material. The biggest problem is usually low respond rate which affects the representativeness of the material (Yuan et al. 1995). The questionnaires can also be made at place which makes it possible for field personal to help respondents with the questions. In the Swedish mountains questionnaire studies have been carried out among outdoor recreationists for example in Fulufjället (Fredman and Hörnsten 2002), Fémundmarka-Rogen-Långfjället (Wallsten 1988 and Vistad 1995) and Mittåkläppen (Emmelin and Iderot 1999).

Self-filled questionnaires are usually placed at public places such as cafeterias, mountain lodges etc. It is up to every single visitor to fill in a questionnaire. This method is commonly used in recreation areas because of low costs and simplicity. It is hard to get information on the representativeness of the sample and there are certain visitor groups that can be over or under represented.

Another advantage of the attitudinal studies is that they can both give information about attitudes and be used for predictions of development and are suitable for monitoring. They are suitable for getting base-line data, often with higher precision than with visitor registrations.

4.5.9 Interviews

Oral and written interviews provide mainly qualitative information about visitors and their motivations and needs. They are an important part of visitor monitoring and combined with quantitative data they give deeper understanding of visitors’ needs and habits. One advantage with interviews is its flexibility, the interviewer can always make sure that respondent has understood the question right and that received information is what the study was aiming to. Another advantage is often high response rate. Disadvantages are connected to the advantages. It is almost impossible to elimi-
nate the influence of the interviewer. At what degree the interview is standardised and
the place for interviews affects also the quality of the data.

Lindhagen (1996) points out the problem of representative selection of the visitors. He refers to studies carried out in forest areas in Sweden close to cities. He points out two main reasons for this: interview studies are highly dependent on weather; when the weather is bad only regular visitors are in the forest, while the number of occasional visitors is higher when weather is good. Another reason according to him is that people in a hurry more often refuse to participate in the study.

4.5.10 **Indirect observations**

Cameras give more information than counters that only measure frequencies. Use of cameras or video cameras makes it possible to register not only number of persons but also group size, direction of movement, mode of transport etc. One problem is the operating time (change of tapes, film or disc). Use of automatic cameras and time-lapse video recorders makes it possible to operate longer periods of time without maintenance. Another problem is electricity supply; most of the available devices depend on standard electricity supply. As noted above Swedish legislation on use of surveillance cameras is strict which would limit the use of such methods.

Modern technology makes it possible to operate and read off counting devices wirelessly from a short distance (infrared interface) or longer distance (mobile phones). Even electricity supply can be solved for example by solar panels with buffer batteries. Muhar et al. (1995) have tried automatization of the interpretation with the help of digital image analysis and have got promising results.

Visitors can also be studied from a longer distance, usually from an aeroplane (see e.g. Meyer 1991), a helicopter or a balloon. A balloon can be equipped with a camera that takes pictures by using a remote control or a timer. Aeroplanes and helicopters require an observant. Even satellite pictures can be used in the future. Remote sensing can be used in areas which good visibility, such as mountains, water ways etc.

4.5.11 **Discussion groups and audits**

Using expert or focus groups is one way to collect information on recreation. This is often combined with collections of other variables. Group techniques are also used in nature planning and management, such as ROS and LAC to gain a better understanding of key stakeholders (Manning 1999). They also give information on attitudes, experiences and the interactions within the groups. Expert or focus group technique is often used as a combination of participant observation and interviews. Expert groups have been used for example in Australia (Ottesen and Woodley 1992). Focus groups
methods have recently been used as a basis for determining objectives of revegetation in arctic and alpine environments (Hagen et al. 2002)

4.6 Sampling

Sampling is a systematic description of the system that is used for collecting the data. Sampling is needed in some form to ensure that the data are representative for larger populations from which they are drawn. Sampling can be based on judgement; data collection is carried out according to the subjective knowledge of the investigator. Statistical sampling is based on statistical principle often seen as preferable to convenience sampling (Watson et al. 2000).

4.7 Data analysis

To be able to use the data it must be analyzed. Observations that have been carried out are only the raw material of the study. The numerical information must be analyzed and characterized to be able to see and show groups and populations, which are often the most interesting thing for the managers. There are numerous methods for analyzing this kind of data and they can be found from several introductory statistics.
5. The case of planning in Södra Jämtlandsfjällen

5.1 Description of the area

Södra Jämtlandsfjällen is located in central Sweden, on the border to Norway in the west. The total area is about 2300 km² and consists mostly of bare mountains and forested mountain valleys. The size of the area in southern-northern direction is about 40 kilometres.

The area is the central part of Sweden’s southern mountain region including continuous areas of bare mountains. The landscape is diversified with the highest peaks over 1700 m above sea level. It is the most alpine area in this part of the Swedish mountain region, and higher and steeper mountains can be found only in the northern counties. Sweden’s southernmost glacier is found in the area and several threatened species such as gyr falcon, golden eagle, great snipe, wolverine and lynx breed in the area.

The vegetation is variable; the western parts of the area have rich vegetation partly due to limestone in the bedrock. The eastern parts are poorer in vegetation, partly because of the hard bedrock, partly because of the more continental climate.

The southern Jämtland mountain area has the densest network of publicly managed trails in the Swedish mountains. The trail system consists of about 500 kilometres of marked summer and winter trails and about 200 kilometres of snowmobile trails. There are three mountain stations and six lodges in the area managed by the Swedish Tourist Association. These services provide overnight facilities, food and other supplies. There are also several private hotels and cabins located just outside the area, and some of Sweden’s major downhill ski resorts are only ten to twenty kilometres away. Many of the winter trails in the area are marked with poles holding a red cross on top, which is characteristic for Swedish standards.

The whole area is used for reindeer herding, fishing and hunting. Outdoor recreation is extensive with some of the trails being among the most frequently used in the Swedish mountains. The eastern parts are a nature reserve where for example forestry is prohibited, and for most parts the area is publicly owned with rights of grazing and hunting and fishing for e.g. the Sámi population.

5.2 The case of a proposed national park in Södra Jämtlandsfjällen

The general plan for national parks in Sweden (Nationalparksplan för Sverige 1989) included the establishment of a national park in the southern part of the high mountain region of Jämtland and in 1995 a working group was formed to prepare a detailed plan for this (for a discussion of the process of this park proposal see Sandell, In manuscript). But a couple of years later it was obvious that the working group could not
not agree on basic issues and in 1998 the further process was changed and directed
towards a national park on based on local conditions ("en nationalpark på bygdens
villkor") using the thematic synoptic plan ("fördjupad översiktsplan") as an arena for
discussions. The two municipalities were instructed to produce a joint comprehensive
plan and the process was supported by resources and participation by various national
and regional interests. The main reason for this shift of strategy was the local resis-
tance and scepticism very much in line with other national park proposals (see e.g.
Sandell 2000). In the beginning of the year 2000 also this work was stopped and the
municipality of Åre proceeded on its own with comprehensive planning for the area
within that municipality. Work on a national park on local conditions was put on the
shelf for the foreseeable future time.

The goal for the planning process was to deal with the questions of development and
nature conservation without being tied to a national park proposal as an instrument for
conservation. Several groups from national, regional and local level that took part in
the process. The goals and needs of the planning process will be discussed more in
detail below in connection with the description of the goals of the case study. The
central actors were:

- The Swedish environment protection agency
- County administration board of Jämtland
- Municipalities of Berg and Åre
- Sámi villages (Handölsdalen, Tossåsen and Mittådalen)
- Residents in the surrounding villages
- STF (Swedish Tourist Association)
- Tourism contractors in the area

The process of the national park proposal in Southern Jämtland could be discussed in
the eco-strategical framework (see above and further in e.g. Sandell 2001). It could
then be described as a start in a more traditional reserve perspective followed (from
1998) by an approach described as "a national park on local conditions" ("på bygdens
villkor"), figure 6, (see further in Sandell In manuscript).
Figure 6. The proposed national park and its shift of strategy illustrated with the help of the conceptual framework of eco-strategies presented above (Sandell In manuscript).
6. The case study in Södra Jämtlandsfjällen

6.1 Objectives

ETOUR was called into the Södra Jämtlandsfjällen planning process to assist with a description of the use patterns. Special focus was to be placed on the patterns that were considered to be in conflict with other natural resources uses and with conservation objectives. The most contentious issue was whether the hikers in recent years had to an increasing extent started to use areas outside the system of marked trails.

In discussion with the regional reference group the original brief was extended to an attitude study of hikers. There were four objectives to fulfil with the study: First, to provide further information to the planning process concerning the visitors in general and especially in relation to the management issues, tourism development and resource conflicts. Second, to produce background for a number of specific management issues that were to be dealt with in the planning process and subjected to experiments with local management: visitor fees, regulation of the conflicts between reindeer herding and tourism including zoning and temporal changes in access. Third, to study the use of the information produced in the planning process. In this respect the problem of legitimacy of the knowledge provided and the possibility of it forming a basis for a common understanding of a number of contentious issues was of primary interest. Here the problem of anticipating the needs for information in a developing planning process with a large element of consultation and participation would have been of great interest to study. Fourth, to produce information comparable to that provided by other studies conducted by ETOUR of summer recreation and tourism as a contribution to the data on mountain visitors for the Fjäll-Mistra project.

The objectives combined with the timing – ETOUR was called in with only a few months in which to plan a study – meant that we decided to apply methods already well tried in other studies such as in the FRL area (Emmelin and Ohlsson 1999, Hultman & Wallsten 1988).

An important type of study that was not commissioned was an investigation into the attitudes both to the resource conflicts and to tourism of the local population. ETOUR has however carried out such studies separately in the area (Lindberg et al. 2002).

Because of the planning situation when ETOUR was called in only a summer study was considered feasible. The main disadvantages of this was that the patterns of use in the winter season, the conflicts with early reindeer migration into the area and the conflicts between different winter activities, especially snow-mobiling and skiing.
were not covered. However ETOUR has carried out focused studies of some of the resource uses with winter recreation and tourism as well as studies concerning the influence of wind power utilisation and tourism. These studies have been reported in (Denstadli et al. 2001 and Lindberg et al. 2002).

The joint comprehensive planning carried out by the two municipalities and the project to support this from regional level were broken off by decision of the regional administration which judged the chances of arriving at a joint plan as limited. This has meant that it has not been possible to reach the case study objectives as outlined at the outset.

6.2 Methods used in the case study

6.2.1 Background

The fundamental objective for our studies in Södra Jämtlandsfjällen was to produce information about important aspects of patterns of recreational and tourism use. Firstly the pressure on the existing trails, campsites and huts were of interest. For this quite rough data is usually satisfactory. Secondly it was important to find out if there were more complicated resource conflicts or interests in development of specific activities.

Conflicts that are caused by hiking and tenting that coincide with sensitive periods for flora, fauna or reindeer husbandry require bigger precision of the studies. In such cases the divergences from the general patterns of use can be the most important information. One of the important questions at issue for our studies was to make clear the extent of hiking and tenting outside the areas close to the marked trails, the mountain lodges and the mountain huts.

For development of tourism data on visitors’ place of residence is important. The area that is dominated by visitors from the immediate surroundings or the region requires different kind of management than an area that is utilized by tourists from a distance. Even the conflicts between utilization of the area as a recreation area and commercial development do require this kind of knowledge.

Differences between different user groups and their use of the area are important to study, especially to study if zoning, for example ROS planning could be a way to handle conflicts. We have studied the visitors both by using the traditional variables, such as age and sex, but also by using the purism scale that is described in the chapter 3.4.

It is important to attempt predictions of the effects of different management actions in the future. This is of interest both for management of the area and for the handling of
different conflicts. The questionnaire study of visitors was formed to give deeper understanding of interplay between attitudes, quality of the environment and patterns of use, visitors’ attitudes towards management, arrangements for outdoor recreation and service etc.

It is important to not only gather knowledge about attitudes, but also to try to get closer to behaviour of the visitors. We used some questions where concrete examples were given and the respondents were forced to make a decision that could be possible in real life. One example is the question where the respondents were facing a situation where they were forced to take a longer route back to their starting point due to reindeer separation. They were asked about their reactions in this kind of situation.

By asking the visitors about their intentions in the beginning of the visit and by asking repeated and more detailed questions after their visit it has been possible to compare results from different parts of the study.

There have been discussions about a proposal of a national park in Södra Jämtlands-fjällen (see chapter 5.2). It is interesting even in general to get knowledge about visitors’ attitudes towards a park designation, although the plans have at present been stopped. For tourism industry it is interesting to know what kind of attraction a national park status has. For planners and managers it is important to get knowledge about possible changes in people’s behaviour, and of course attitudes towards a park designation. It is important to have in mind when studying our results that the questions were directed to people that already had decided to visit the area and had at least some knowledge about the area.

The experiences of the visitors affect both their own behaviour and choice of recreation area, and their meaning for “mouth to mouth” marketing. For planners and managers of a recreation area it is important to know if the existing infrastructure and service meets the needs of visitors. This is in many cases connected to the visitor’s experiences of problems, such as wear and tare, litter etc. Visitors may have a different view on the problems and on the ways to handle them than the managers (see e.g. Emmelin and Iderot 1999 and Vistad 2002). It is also quite common that visitors that are satisfied with the situation indicate their opinions more seldom than the dissatisfied visitors (see e.g. Sievänen 1992).

6.2.2 Self registration and studies of non participation

So called self-registration boxes were used in the study (see figure 7). They were placed at the most important trailheads. The distance from the starting point of the trail was varying depending on the topography and possible crossings. There is a risk for vandalism if the registration boxes are situated too close to the parking spaces (see for example Hultman and Wallsten 1988 and Wallsten 1988). We wanted also to avoid having them too close to different information signs, which are quite common especially close to the mountain stations. It was also important to have them in places,
where they could be easily seen. The boxes were placed so that ground around them would bear wear and tare as well as possible.

The total number of boxes was 21 (see appendix for map showing the location of the registration boxes). We wanted to cover all the important trailheads, especially the marked trails. There is a possibility for a diffuse inflow to the area that cannot be caught totally. The aim was however to give a rough picture of the use of the area, not to capture every single visitor. The number of the registration boxes was also steered by the available resources. The methodology reflects best the patterns of use in the area as a whole. It is quite probable that it is mostly the local visitors that are hard to catch. (Emmelin & Ohlsson 1999) They are at the same time the easiest groups to contact afterwards if it is important to get more information about them (see e.g. Lindberg et al. 2002).

Figure 7. One of the self registration boxes used in the study

Two information signs were fixed on the outside of the boxes, one on the front, and one on the back (see appendix). The text was quite short and the purpose was to raise interest among the visitors and to get them open the box for more information. There was a map over the study area and more information about the study and the registration cards inside the boxes (see appendix). The texts were in Swedish, English and German.

Special studies were carried out to examine non participation. These studies made it possible to estimate the total number of visitors. The studies of non participation were carried out by the project personnel, including four project leaders and eleven project assistants. The project leaders were educated adults that were participating in many
different parts of the project. The project assistants were partly students from local schools from the municipality of Åre, partly adult trainees from the municipality of Berg. The project assistants were trained for the task at the beginning of the study period and were guided by the project leaders during the study period.

Every registration box was controlled during five to eight days, on average 6 hours per day. The observers were standing or sitting several meters from the box, behaving neutrally. The idea was to not to give the visitors a feeling of being watched and thereby affecting their behaviour. The number of visitors that registered themselves was counted as well as visitors passing the box without registering themselves. The following variables were registered of the visitors passing the registration boxes without registering themselves: sex, age, nationality and activities. This was done to be able to see if there was a connection between some of these variables and the frequency of registrations.

As many as possible of those who had not registered themselves were interviewed; the final share of the interviewed was 73.2%. Questions were asked about motives for not registering themselves. Although the question was open, the interviewers were using following categories to simplify the work and the analysis of the answers: i) have already filled in a registration card, ii) not interested, iii) did not see the registration box, iv) thought that it was information and v) other. All those, that had not registered themselves before were also kindly asked to fill in a registration card. The number of visitors doing so was recorded.

Some things with the studies of non participation turned out to be problematic. Controlling the boxes and making notes worked without problem, but the interviews were experienced as a bit uneasy to make in some occasions. To interrupt someone, often older person than the interviewer him/herself, was experienced as uncomfortable, especially by the younger project assistants. Another problem was that even if the interview was made, the result may in some cases be misleading, mostly because in certain cases follow up questions should have been needed. The project personnel was instructed to do that, but it was especially in these situations that some felt uncomfortable. That was the case for example if the interviewed person answered that the reason for not filling in a registration card was that he/she had already done that earlier. This was also pointed out on the registration boxes.

Some things can be mentioned concerning the methodology. It is important to remember that answers to some questions in the registration card reflect visitors’ intentions – most of the visitors filled in the registration card in the beginning of their visit and this is why the answers give information about their plans rather than what they may actually have done. Many factors, both positive and negative, can contribute to changes in plans.
6.2.3 Observation of tents

Flight observations were carried out with nine occasions, three times with a helicopter and six times with an airplane. Points of time for helicopter flights were the 7th of July, the 20th of July and the 18th of August. The county administration board carried out their flights with an airplane the 13th of July, the 30th of July, the 7th of August, the 19th of August, the 30th of August and the 10th of September. Two of nine flights were carried out on weekends. All the flights were carried out as early in the morning, as light conditions permitted visual flying and observation. This varies during the summer.

The flight routes differed (see appendix). Observations with the airplane were carried out in the western parts of the research area; the helicopter was used also in the eastern parts, Anarismjällen and Lunndörrsfjällen. To control the precision of these two observation methods against each other by flying the same route during one day was seen as too expensive and also undesirable for safety reasons.

The total length of the flight routes were 265 km for helicopter and 255 km for airplane. 113 kilometres (43 %) of the flight route with helicopter and 92 kilometres (36 %) of the flight route with airplane was outside the marked trails. Both the pilot and an observer made observations. Notes were made directly on a map. Colour of the tents was noted to make comparison with the observations from the ground possible.

At the same time with flight observations ground observations were carried out. Several observers were hiking along those parts of the flight routes that coincided with trails and making notes of the tents. They were also making notes direct on the map to make it possible to compare with the flight observations.

6.2.4 Registration of cars

Registration of cars was carried out on three car parks in Storulvän, Vålådal and Kläppen. A special registration card was used; the noted variables were place, date, time of the day, total number of cars and total number of caravans. All the Swedish registration numbers were written down, likewise nationality of all foreign vehicles and commentary of special kind of vehicles, for example campers.

6.2.5 Questionnaire

The goal of the questionnaire was to give deeper understanding about attitudes, visitor flows, and motives. Special attention was paid on attitudes towards different management actions and service. The target group was the people that had visited the area during the summer 1999. For the questionnaire, see appendix.
A sample was taken from the group of Swedish, Norwegian and German visitors (the three largest groups). Totally 2138 questionnaires were sent, 1418 to the Swedish visitors, 394 to the Norwegian visitors and 352 to the German visitors. Two reminders were sent, with about two weeks in between. The first reminder contained only a short letter, the other one even a new questionnaire.

6.2.6 Data analysis

Data was analyzed by using SPSS and Microsoft Excel statistical programs. The GIS-program Arc View was used for analyzing the spatial distribution of the visitors and the tents. Frequencies and mean values were counted and the results were summarized in frequency tables. For detailed description of the data analysis see Vuorio et al. (2000) and Vuorio, Emmelin and Göransson (2000).
7. Case study results

7.1 Introduction

An overview over the results will be given in this chapter. For detailed results and figures, see Vuorio, Emmelin and Göransson (2000) and Vuorio et al. (2000). The results should be looked at with the used methods in mind. The aim of this paper is not to give a comprehensive picture of the visitors in Södra Jämtlandsfjällen, but to discuss how well the used methods worked in answering the central questions in the planning process.

The total number of returned and correctly filled questionnaires was 960 Swedish (69 %), 207 Norwegian (54 %) and 242 German (69 %). The response rate among the Swedish and German visitors was satisfactory but a bit lower than expected among the Norwegian visitors.

7.2 Number of visitors and groups

The total number of registrations was 15 238, it makes up to 17 301 with non participation included (see table 3). 38.6 % of the observed visitors did not register themselves. 73.2 % of them were interviewed and the results show that about 65 % of them had already registered themselves. This gives non participation of 13.5 %. There were also 1907 persons that were mentioned in the registration cards as members of a group but that had not however filled in their own registration card, even if the visitors were asked to do that. It is however hard to estimate how many of these are included in non participation.

The results represent the group of visitors that walk into the area, not only visit the establishments nearby. The total number of visitors differs consequently from the total number of tourists. This delimitation was part of the assignment that was given to ETOUR.
Table 3. Results of the studies of non participation.

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of control occasions</td>
<td>113</td>
</tr>
<tr>
<td>Number of control occasions per registration box</td>
<td>5.4</td>
</tr>
<tr>
<td>Total control time</td>
<td>680 h</td>
</tr>
<tr>
<td>Number of observed registrations</td>
<td>588</td>
</tr>
<tr>
<td>Number of observed non-registrations</td>
<td>370</td>
</tr>
<tr>
<td>Per cent of observed non-registrations</td>
<td>38.6 %</td>
</tr>
<tr>
<td>Number of interviewed visitors</td>
<td>271</td>
</tr>
<tr>
<td>Per cent interviewed</td>
<td>73.2 %</td>
</tr>
<tr>
<td>Number of observed registrations</td>
<td>588</td>
</tr>
<tr>
<td>Number of observed non-registrations</td>
<td>370</td>
</tr>
<tr>
<td>Per cent of observed non-registrations</td>
<td>38.6 %</td>
</tr>
<tr>
<td>Number of interviewed visitors</td>
<td>271</td>
</tr>
<tr>
<td>Per cent interviewed</td>
<td>73.2 %</td>
</tr>
<tr>
<td>Number of interviewed visitors that had already registered themselves</td>
<td>176</td>
</tr>
<tr>
<td>Per cent of interviewed visitors that had already registered themselves</td>
<td>64.9 %</td>
</tr>
<tr>
<td>Per cent of interviewed that should have registered themselves</td>
<td>35.1 %</td>
</tr>
<tr>
<td>Non participation (per cent)</td>
<td>13.5 %</td>
</tr>
<tr>
<td>Per cent of visitors that registered themselves after the interview</td>
<td>48.4 %</td>
</tr>
<tr>
<td>Number of filled in registration cards</td>
<td>15238</td>
</tr>
<tr>
<td>Total number of visitors non participation added</td>
<td>17301</td>
</tr>
<tr>
<td>Number of “extra” persons written down on the registration cards</td>
<td>1907</td>
</tr>
</tbody>
</table>

Non participation was 13.5 %. Non participation varied from 31.8 % in Tjallingen (see appendix) to 2.9 % in Blomsterstigen. The most common reason for not filling in a registration card was that the respondent had earlier filled in a card during their visit. All the visitors that should have registered themselves were kindly asked to do it after the interview and 48 % of them also did that. The most common reasons for not filling in a registration card are reported in the following table.

16 Only those who had not registered themselves were interviewed
17 Only those who had not registered themselves were interviewed
18 Only those that had not registered themselves earlier were asked to do that
19 Visitors had made notes on the registration cards, writing for example that they are a group of three people but only one of them filling in the registration card. It is however hard to estimate how many of these have been included in the studies of non participation. This is why the total number of visitors includes only non participation.
Table 4. Reason for not filling in a registration card.

<table>
<thead>
<tr>
<th>Reason</th>
<th>% of the interviewed visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have already filled in a registration card</td>
<td>49.5</td>
</tr>
<tr>
<td>Not interested</td>
<td>25.5</td>
</tr>
<tr>
<td>Other</td>
<td>11.3</td>
</tr>
<tr>
<td>Did not see the registration box</td>
<td>11.2</td>
</tr>
<tr>
<td>Thought that it was information</td>
<td>2.5</td>
</tr>
</tbody>
</table>

7.3 The visitors

The Swedish visitors are dominating in the area, only about 10 % are foreigners. The majority of the foreign visitors are from Norway, Germany and Denmark. A large share of the Swedish visitors comes from the big towns in Southern and Central Sweden. About 15 % of the Swedish visitors come from the county of Jämtland. The group of visitors from the other parts of Norrland is also about 15 % of all the visitors.

The proportion of men and women is about equal. The majority of the visitors are married or common law husbands/wives. The share of high educated is relatively high, which is common among the mountain hikers in Sweden and in outdoor recreation settings in other parts of the world (see for example Mackay 1999 and Manning 1999). Two clear age groups can be found, the young adults between 20 and 30 years of age and the middle aged between 40 and 60 years of age. A third, smaller group of teenagers can also be found.

Hiking, both day hikes and hikes of several days are the most common activity among the visitors. About 40 % of the visitors give day hikes as the main activity and this group can be assumed to be under represented. The geography and the natural conditions of the area are certainly one of the main reasons for the absence of certain activities, such as canoeing and mountain biking. Södra Jämtlandsfjällen is also traditionally an area for hikers and hiking.

Camping is important as an activity, not only as a type of housing for a considerable share of the Swedish visitors. At the same time the flight observations show that the share of tents outside the marked trails and the immediate vicinity of the establishments is very low. This shows together with the segmentation of the visitors that the group that would be affected by restrictions for nature conservation and the reindeer herding would in any case be at present small. This is also a group that is more puristic in their attitudes towards untouched nature and would probably be more disturbed by some restrictions, although not the ones that aim to heighten the wilderness characteristics of the area.

Most of the visitors come together with others, most often family. The most common group size is two persons. The share of visitors that are part of an organised group is small (5 %), no matter if the group is commercially organised or other arrangements.
It has to be noticed that such groups can be a bit difficult to catch because they tend to pass the registration boxes without stopping.

On average the Swedish visitors spend 5.6 days in the area. The German visitors stay 6.8 days, although the area is not in all the cases the only goal of the trip. The Norwegian visitors spend a little shorter time in Södra Jämtlandsfjällen, 3.3 days, which can be explained by the fact that many of them come from the areas close to Södra Jämtlandsfjällen and that many of them have the visit in the area as a part of a longer hike on the Norwegian side of the border.

About one fourth of the visitors were visiting the area for the first time. Almost half of the visitors making a multiple day hike were doing it for the first time in the area. There are both very experienced visitors that return to the area year after year and a group of first time visitors that are getting their first mountain experiences in the area. About 60% of the first time visitors had never done a multiple day hike in the Swedish mountains. This together with the earlier presented geographical spreading of the visitors shows that Södra Jämtlandsfjällen is an important area for the Swedish outdoor life and as recruitment area for mountain tourism.

Most of the visitors travel by car to the area. Approximately one fourth of the Swedish visitors travelled by train to the area. Visitors from the surrounding areas were mostly using car.

Most of the visitors are planning to visit the area again (about 90%); the share is even bigger among those who had visited the area before. The visitors are also planning to recommend the area to other people.

A majority, 67% of the Swedish visitors had not had any alternative travel plans. About 60% of the Norwegian and German visitors had had other alternatives. Most of the visitors that had had other travel plans, had had other mountain areas in Sweden as an alternative. The only exception was the Norwegian visitors that had had Norwegian mountains as an alternative. This can be partly explained by their place of residence: a majority of them come from areas close to Södra Jämtlandsfjällen and are using the area as their “home mountains”.

7.4 Geographical distribution of the visitors

7.4.1 Trail heads

The use of the area has some clear geographical features. The north western trail heads have almost half of the visitors. Other important starting areas are Vålådalen and Ljungdalen with about one fourth’s share each. About five percent of visitors
came across the Norwegian border. For map showing the share of visitors on different trail heads, see appendix.

7.4.2 Hiking along the trails

Frequency of hikers along the trails gives similar picture as the self registrations. Trails from and to Storulvån, Vålådalen and Ljungdalen are the most frequently used (for map showing the frequencies, see appendix). It is also obvious that the western parts of the area have more visitors than the eastern parts. This can be seen even in the STF\textsuperscript{20} statistics (see table 5). Pattern of camping is also confirming this.

Table 5. The share of Swedish, Norwegian and German visitors along the trails.

<table>
<thead>
<tr>
<th>Trail</th>
<th>Swedish visitors, %</th>
<th>Norwegian visitors, %</th>
<th>German visitors, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storulvån - Sylarna</td>
<td>33,2</td>
<td>15,9</td>
<td>15,3</td>
</tr>
<tr>
<td>Blåhammaren - Storulvån</td>
<td>31,5</td>
<td>16,9</td>
<td>18,6</td>
</tr>
<tr>
<td>Sylarna - Blåhammaren</td>
<td>22,5</td>
<td>17,9</td>
<td>16,9</td>
</tr>
<tr>
<td>Kläppen - Helags</td>
<td>18,5</td>
<td>1,0</td>
<td>25,8</td>
</tr>
<tr>
<td>Vålådalen - Stensdalsstugorna</td>
<td>16,9</td>
<td>2,4</td>
<td>14,4</td>
</tr>
<tr>
<td>None of the given trails</td>
<td>15,5</td>
<td>7,2</td>
<td>15,7</td>
</tr>
<tr>
<td>Helags - Sylarna</td>
<td>13,9</td>
<td>8,7</td>
<td>23,3</td>
</tr>
<tr>
<td>Vålådalen - Vålåstugan</td>
<td>12,9</td>
<td>2,4</td>
<td>17,8</td>
</tr>
<tr>
<td>Gåsen - Sylarna</td>
<td>12,3</td>
<td>4,3</td>
<td>10,2</td>
</tr>
<tr>
<td>Rundhögen - Blåhammaren</td>
<td>12,1</td>
<td>31,4</td>
<td>4,2</td>
</tr>
<tr>
<td>Storulvån - Gåsen</td>
<td>12,1</td>
<td>5,8</td>
<td>12,7</td>
</tr>
<tr>
<td>Vålådalen - Lunndörrostugorna</td>
<td>8,3</td>
<td>3,4</td>
<td>7,6</td>
</tr>
<tr>
<td>Blåhammaren - Storerikvollen</td>
<td>8,0</td>
<td>27,1</td>
<td>5,5</td>
</tr>
<tr>
<td>Helags - Gåsen</td>
<td>8,0</td>
<td>2,9</td>
<td>7,6</td>
</tr>
<tr>
<td>Gåsen - Stensdalsstugorna</td>
<td>6,8</td>
<td>1,0</td>
<td>6,4</td>
</tr>
<tr>
<td>Vallbo - Lunndörrostugorna</td>
<td>6,4</td>
<td>0</td>
<td>2,1</td>
</tr>
<tr>
<td>Fältjägaren - Helags</td>
<td>6,0</td>
<td>2,9</td>
<td>10,6</td>
</tr>
<tr>
<td>Sylarna - Storerikvollen</td>
<td>5,9</td>
<td>34,3</td>
<td>2,5</td>
</tr>
<tr>
<td>Lunndörrostugorna - Vålåstugan</td>
<td>5,4</td>
<td>1,9</td>
<td>4,7</td>
</tr>
<tr>
<td>Stensdalsstugorna - Vålåstugan</td>
<td>5,2</td>
<td>0,5</td>
<td>4,2</td>
</tr>
<tr>
<td>Enafors - Blåhammaren</td>
<td>5,1</td>
<td>2,4</td>
<td>6,8</td>
</tr>
<tr>
<td>Enafors - Storulvån</td>
<td>5,0</td>
<td>0,5</td>
<td>4,7</td>
</tr>
<tr>
<td>Gåsen - Vålåstugan</td>
<td>4,7</td>
<td>2,4</td>
<td>6,4</td>
</tr>
<tr>
<td>Vålåstugan - Helags</td>
<td>4,1</td>
<td>0,5</td>
<td>7,6</td>
</tr>
<tr>
<td>Storvallen - Blåhammaren</td>
<td>4,0</td>
<td>7,2</td>
<td>9,3</td>
</tr>
<tr>
<td>Sylarna - Nedalshyttan</td>
<td>3,8</td>
<td>44,4</td>
<td>1,7</td>
</tr>
<tr>
<td>Tossåsen - Lunndörrostugorna</td>
<td>2,3</td>
<td>0</td>
<td>3,4</td>
</tr>
</tbody>
</table>

\textsuperscript{20} STF= Svenska Turistföreningen, the Swedish Tourist Association
<table>
<thead>
<tr>
<th>Location</th>
<th>Distance</th>
<th>Altitude</th>
<th>Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ljungris - Vålåstugan</td>
<td>2,3</td>
<td>0</td>
<td>2,5</td>
</tr>
<tr>
<td>Rundhögen - Storulvån</td>
<td>2,0</td>
<td>4,8</td>
<td>0,8</td>
</tr>
<tr>
<td>Helags - Nedalshyttan</td>
<td>1,9</td>
<td>5,3</td>
<td>2,1</td>
</tr>
<tr>
<td>Vallbo - Anarisstugan</td>
<td>1,8</td>
<td>0</td>
<td>3,0</td>
</tr>
<tr>
<td>Anarisstugan - Lunndörrstugorna</td>
<td>1,3</td>
<td>0</td>
<td>2,1</td>
</tr>
</tbody>
</table>

### 7.4.3 Special places

It was important to study the number of visitors in certain places, partly in sensitive areas or areas where conflicts between different land uses could exist, partly places of touristic interest. Respondents were given a number of alternatives to choose from and they were also allowed to choose other places. Even the answers on this question confirm the fact that it is only a few visitors that hike outside the marked trails, the most popular places to visit are situated close to the trails, roads and mountains stations and huts.

### 7.4.4 Overnights

About half (54%) of the visitors that stay in the area at least one night, stay overnight at the STF establishments. 33% are camping and the rest of the visitors had overnighted in some other way (the most frequent alternatives were own hut, rented hut and caravan). It seems to be characteristic for the area to attract visitors with large demand for marked trails, huts and other arrangements. This is confirmed even by the used PNU-scale which shows that visitors in Södra Jämtlandsfjällen are less puristic in their relation to the wilderness experience than visitors in some other mountain areas (Wallsten 1988, Vistad 1995, Odden 1995, Lunde 1996, Emmelin and Iderot 1999).
Table 6. Overnights at STF establishments during the study period\textsuperscript{21}. It is important to notice that Storulvån and Vålådalen can be reached by car.

<table>
<thead>
<tr>
<th>Mountain station/hut</th>
<th>Number of overnights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sylarna</td>
<td>7139</td>
</tr>
<tr>
<td>Storulvån</td>
<td>6025</td>
</tr>
<tr>
<td>Vålådalen</td>
<td>5461</td>
</tr>
<tr>
<td>Blåhammaren</td>
<td>4373</td>
</tr>
<tr>
<td>Helags</td>
<td>3294</td>
</tr>
<tr>
<td>Gåsen</td>
<td>1950</td>
</tr>
<tr>
<td>Stensdalen</td>
<td>1199</td>
</tr>
<tr>
<td>Vålåstugan</td>
<td>763</td>
</tr>
<tr>
<td>Lunndörren</td>
<td>696</td>
</tr>
<tr>
<td>Fältjägaren</td>
<td>280</td>
</tr>
<tr>
<td>Anaris</td>
<td>101</td>
</tr>
</tbody>
</table>

7.4.4.1 Camping

Totally 649 tents were observed during the nine observation flights. The largest number of tents was observed in the beginning of August, about at the same time with the peak of number of visitors. The second half of July is also popular among campers.

Most of the tents were close to the marked trails and the mountains huts and lodges. Only about 4\% were pitched outside the immediate vicinity of the marked trails. About 35\% of tents were lying close to the huts and lodges, the rest of the tents (about 60\%) were close to the marked trails. A considerable part of the last-mentioned group was close to the wind-shelters.

As the map shows (see appendix), the most frequently used campsites are situated along the so called Jämtlandstriangeln\textsuperscript{22}. The eastern parts of the mountains above the tree line are not so popular among the campers; this reflects even the relatively low number of people hiking in this area. It is important to keep in mind that the flight observations were not carried out in the forested areas, this means that data is missing for example for the forest covered parts of the valley of Vålådalen. In the following table the tent observations are presented.

\textsuperscript{21} The study period and the season for STF mountain huts and stations were almost identical.
\textsuperscript{22} Jämtlandstriangeln = the mountain lodges in Storulvån, Sylarna and Blåhammaren and the marked trails connecting them to each other.
Table 7. The observed tents on the nine observation occasions.

<table>
<thead>
<tr>
<th>Date</th>
<th>Observation carried out by</th>
<th>Number of tents</th>
</tr>
</thead>
<tbody>
<tr>
<td>990707</td>
<td>ETOUR (helicopter)</td>
<td>40</td>
</tr>
<tr>
<td>990713</td>
<td>County administrative board (airplane)</td>
<td>80</td>
</tr>
<tr>
<td>990720</td>
<td>ETOUR (helicopter)</td>
<td>110</td>
</tr>
<tr>
<td>990730</td>
<td>County administrative board (airplane)</td>
<td>100</td>
</tr>
<tr>
<td>990807</td>
<td>County administrative board (airplane)</td>
<td>135</td>
</tr>
<tr>
<td>990818</td>
<td>ETOUR (helicopter)</td>
<td>55</td>
</tr>
<tr>
<td>990819</td>
<td>County administrative board (airplane)</td>
<td>63</td>
</tr>
<tr>
<td>990830</td>
<td>County administrative board (airplane)</td>
<td>32</td>
</tr>
<tr>
<td>990910</td>
<td>County administrative board (airplane)</td>
<td>34</td>
</tr>
</tbody>
</table>

The following table (table 8) shows the comparison of observations of tents from air and ground. Most of the missed tents were close to the mountain stations or huts. Observations close to the mountain stations and huts were supposed to be done with respect to the people staying at the establishments (the early time of the observation). This means that it was not possible to stay on all too long to be able to observe all the tents that sometimes were lying very close to the buildings.

Table 8. The results of the observation of tents

<table>
<thead>
<tr>
<th>Date</th>
<th>Number of tents observed from the air</th>
<th>Number of tents observed from the ground</th>
<th>Tents observed both from the air and the ground</th>
<th>Tents missed from the air (of the controlled)</th>
<th>Per cent missed from the air</th>
</tr>
</thead>
<tbody>
<tr>
<td>990707</td>
<td>40</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0,0</td>
</tr>
<tr>
<td>990713</td>
<td>80</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2,5</td>
</tr>
<tr>
<td>990720</td>
<td>110</td>
<td>53</td>
<td>45</td>
<td>8</td>
<td>7,3</td>
</tr>
<tr>
<td>990730</td>
<td>100</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>4,0</td>
</tr>
<tr>
<td>990807</td>
<td>135</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0,0</td>
</tr>
<tr>
<td>990818</td>
<td>55</td>
<td>26</td>
<td>21</td>
<td>5</td>
<td>9,1</td>
</tr>
<tr>
<td>990819</td>
<td>63</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1,6</td>
</tr>
<tr>
<td>990830</td>
<td>32</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0,0</td>
</tr>
<tr>
<td>990910</td>
<td>34</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0,0</td>
</tr>
</tbody>
</table>

7.4.4.2 Hiking outside the marked trails

The results show that a large majority follow the marked trails. Only 22,6 % of the visitors answered that they were planning to hike outside the marked trails at least one day. The share of these respondents is changing between 6 and 50 % at different trailheads. The Swedish visitors walk outside the marked trails to a greater extend than
the Norwegian and the German visitors. The most common reasons for following the marked trails are convenience and security.

7.5 Visitors’ attitudes

7.5.1 Wear, litter and noise

Recreational impact on the ground is not experienced as a problem by majority of visitors. This is in line with other studies carried out in the Scandinavian mountain region (see e.g. Emmelin and Iderot 1999, Vistad 1995, Vistad 2002).

About 25% of the visitors state that they have experienced wear (erosion and vegetation damage) or seen litter during their visit. Most of the wear and the litter had been seen by the trails and on the campsites. The noise is not either a disturbing factor, only a few of the visitors had heard noise and even fewer had been disturbed by it. Almost all of the noise had been from a helicopter or an airplane.

7.5.2 Other users

A majority of the visitors had met as many people during their visit as they had expected. About 15% had met fewer people than they had expected. It is only a few that had been disturbed by other users, only 3.3% of the visitors in Södra Jämtlandsfjällen had been disturbed by other visitors. This is much less than in many other countries, where crowding is one of the main problems managers of recreation areas are struggling with (see for example Freimund and Cole 2001 and Kearsley et al. 1998). It is obvious that demands for wilderness of the majority of the visitors can be accommodated in environments that have been “hardened” to minimize physical damage. At the same time other areas can be reserved for more puristic groups.

7.5.3 Service

The visitors were happy with the quality of the service and establishments. The existing infrastructure, such as wind shelters, signs, footbridges, bridges etc. are of satisfactory for the visitors. The most requested changes were building of more footbridges and signs, however only by about 20% of the visitors.
7.5.4 Information

The visitors had had information boards, information at the mountains stations and lodges as the most important source of information during their visit. More information on nature conservation and reindeer herding is desired by a majority of the visitors. When they at the same time consider information as the most desired management action, it is obvious that this knowledge should be used by the managers of the area.

7.5.5 Threats

In Södra Jämtlandsfjällen the wind power mills, snowmobiling, terrain vehicles, power transmission lines together with crowding and overexploitation are considered as threats towards the values of the area by most of the visitors. Even increased restrictions are seen as negative, however not by as large amount of the visitors. It is however important to notice that the visitors are mostly hikers, which affects their attitudes towards for example snow mobiles or mountain bikes.

7.5.6 Management actions

The most desired management action to avoid wear of the area was information about sensitivity of nature. Information is commonly seen as the most effective way to affect visitors’ attitudes. Information has showed to be the most popular action in other Scandinavian studies too (see e.g. Vistad 2002). For table showing the answers to the question, see appendix.

The other desired management actions to avoid wear of Södra Jämtlandsfjällen were nature conservation, footbridges, and limited entry to sensitive areas, to control the number of visitors during the sensitive periods, to guide visitors to the marked trails and to prohibit tenting in certain areas.

Hard restrictions to manage disturbance and environmental influence are seen as less desirable by the visitors. Even prohibition of snowmobiles and terrain vehicles and restriction of biking and riding were considered as desirable management actions. The most negative reactions were caused by the suggestion of new fees for visitors and limitation of the right of common access. This has been a common result in studies carried out in Scandinavia, mostly due to the right of common access (see e.g. Ovaskainen 2001 and Vistad 2002).

Over 60 % of the Swedish visitors would like to extend protection of nature in the area, prohibit entrance to the especially sensitive areas, manage the number of visitors during the sensitive periods and build more footbridges.
The visitors are not ready to accept extensive restrictions that would affect their own activities. It is obvious that restrictions that affect other user groups are more accepted. The German visitors are more positive to measures with regard to reindeer herding than the Swedish and Norwegian visitors.

To reserve certain areas for reindeer herding or nature conservation by prohibiting entry to these areas raises a bit more resistance than moving certain trails. Acceptance for closing certain trails temporarily due to the reindeer husbandry or nature conservation is relatively good as even the following table shows. It can also be noticed that a majority of the visitors are not disturbed by the mark of reindeer herding and they think that it is positive or very positive to see reindeers. This together with the fact that wear and tear are generally not experienced as a big problem shows that reindeer herding is not seen as a negative factor for tourism and outdoor recreation. Only exception is all-terrain vehicles which are experienced as more or less negative.

The group that would be affected by restrictions with regard to the nature conservation and the reindeer herding would in any case be at present very little. This is also a group that is more puristic in their attitudes towards untouched nature and would probably be more disturbed by some restrictions, however not the ones that aim to heighten the wilderness characteristics of the area.

Table 9. Answers to question: “Think about the following situation: you are in Sylarna mountain station and on your way to Storulvån. You are told that because of the reindeer separation you are forced to take another way home – the trail towards Blåhammaren to Ulvåtjärn and from there to Storulvån. The new route is about 4 kilometres longer it will take about an hour longer to come there. How would you experience the situation?”

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Swedish visitors, %</th>
<th>Norwegian visitors, %</th>
<th>German visitors, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very positive</td>
<td>6,0</td>
<td>8,2</td>
<td>15,7</td>
</tr>
<tr>
<td>Positive</td>
<td>26,8</td>
<td>25,1</td>
<td>27,5</td>
</tr>
<tr>
<td>Neutral</td>
<td>42,2</td>
<td>42,0</td>
<td>50,0</td>
</tr>
<tr>
<td>Negative</td>
<td>15,9</td>
<td>15,0</td>
<td>3,8</td>
</tr>
<tr>
<td>Very negative</td>
<td>4,5</td>
<td>3,9</td>
<td>1,3</td>
</tr>
<tr>
<td>Do not know</td>
<td>2,9</td>
<td>3,9</td>
<td>0,8</td>
</tr>
<tr>
<td>No answer</td>
<td>1,7</td>
<td>1,9</td>
<td>0,8</td>
</tr>
</tbody>
</table>

7.5.7 Responsibility for management

All the three nationalities considered that the Swedish state (i.e. The Swedish environment protection agency and the county administration board of Jämtland) has the biggest responsibility for the management of the area. The visitors are considered to have almost as much responsibility as the state except by the Norwegian visitors.
Between 20 and 30% of all the visitors thought that reindeer husbandry has responsibilities for management of the area. Almost as many thought that travel organizer, the municipalities and STF are responsible for the management. The share of Norwegian visitors that think that STF and the municipalities are responsible is much higher than among the Swedish and German visitors. This can probably be explained by the differences between management systems in different countries.

![Graph showing responsibility for management](image)

Figure 8. Responsibility for management.

### 7.5.8 National park designation

It is first of all the German visitors that would be positively affected if the area became a national park (43%). At the same time only a fifth of the Swedish and the Norwegian visitors would be affected positively. Over half of the visitors think that it would be positive for tourism development. About half of the visitors think also that the number of non-Swedish visitors would rise if the area became a national park. This could have negative impacts on the nature and the reindeer herding according to the visitors.
7.5.9 Purists and urbanists in Södra Jämtlandsfjällen

In this paper the focus will be on the Swedish visitors regarding the purism scale. Even the Norwegian and German visitors were studied according to the purism scale, results can be found from Vuorio, Emmelin and Göransson (2000).

The used scale was from 1 to 5. Answers to the 40 questions were summarized and the mean value for the whole population was counted. The mean value was 124,0 and the standard deviation was 9,8. Neutralists are the group laying inside the standard deviation and urbanists and purists the groups that are lying outside the standard deviation.

Classification of the Swedish visitors using the purism-scale

A majority of the Swedish visitors consider that it is in general positive that there are physical arrangements, such as foot bridges, bridges, marked trails with information signs and huts and lodges for overnighting in Södra Jämtlandsfjällen.

About two thirds think that it is positive to be able to camp freely or to camp in places where they cannot be seen or herd. About as many visitors think that it is positive to be able to hike several days without seeing any houses, roads or too many other visitors. About 75 % of the visitors think that it is positive that the four largest predators exist in the area.
Almost all the visitors (98%) think that it is positive to be able to experience untouched nature. There is also a smaller group (27%) that think that it is positive to be able to take car inside the area to be able to make day hikes. About 12% think that it is positive to be able to fly into the area. At the same time the visitors think that it is negative to hear noise from cars or airplanes. This shows that when using several indicators for studying attitudes, the results are not always consistent.

76  Rogen, canoeists, 1985
73  Femundsmarka, fishermen & canoeists, 1986
    Stabbursdalen nasjonalpark, all groups, 1990
70  Femundsmarka, multiple day hikers, earlier experience of the area, 1986
    Femundsmarka, all groups, 1986
67  Rogen, all groups, 1985 / Femundsmarka, multiple day hikers, without earlier experience of the area, 1986
62  Södra Jämtlandsfjällen, all Swedish visitors, 1999
60  Rogen, day visitors, 1985
    Femundsmarka, day visitors, 1986
56  Mittäkläppen, day visitors, 1998.

Figure 10. Mean value on the purism scale for different groups\textsuperscript{23}

8. Discussion

Effective spatial planning in the mountains presupposes better information on tourism and outdoor recreation than is available at present. Data on tourism and recreation is not systematically collected at local or regional level. Municipalities need adequate data to base planning on. In other sectors the regional administrations are responsible for information support to spatial planning. Thus planning for tourism and recreation infrastructure and resolution of conflicts with other forms of land-use becomes difficult. The lack of information influences both perceptions of the existing situation, its problems and opportunities, but also hampers establishing of a common understanding among actors in the planning process. The data collection should thus be planned with the goals that planning has for the area and from the present resource conflicts in focus.

8.1 Introduction

The case study was designed to be part of a comprehensive planning process carried out by local and regional authorities. It was carried out as a commissioned project for the planning authorities complemented by aspects of interest to ETOUR research as described in 6.1. As noted in the introduction to this paper the joint comprehensive planning carried out by the two municipalities and the project to support this from regional level were broken off by decision of the regional administration. The reason was that the two municipalities failed to come to a sufficient consensus on some of the basic issues but also on the planning process. This means that the objectives of the study could only partly be fulfilled. While the relevant information was gathered the test of its use in the planning process could not be studied. This also means that an important methodological aspect could not be studied. We have pointed at the need to relate studies to planning and management objectives. However the design of a study at the early planning stages necessitates a number of assumptions concerning what information will be needed. The development of a planning process with considerable components of consultation and participation means there is a very real problem of trying to anticipate what information will be needed at later stages. We are thus unfortunately not able to analyse and draw methodological conclusions concerning this. The interesting and important issue of legitimacy and the ability of external expertise to aid in producing a basis of a common understanding or description of a contentious issue can not be analysed. This is an area with considerable research interest, especially as it relates to attempts at designing effective but also efficient participatory processes. In the Södra Jämtlandfjällens case it would have been especially interesting to follow the attempts at producing a common basis for a problem, the planning process and the design of local management strategies. This is a type of issue where the theoretical framework of "ecostrategies" can be used to understand not only the principles but also the degree of success or limitation of the attempt to produce a common basis of problem description and perception. A discussion within the frame of the planning process as far as it went is given below.
8.2 Eco-strategies and legitimacy of data collection

8.2.1 Introduction

In section 2.4 above it was argued that the question of what type of knowledge for a planning process that could be seen as legitimate is among other things a reflection of what landscape perspective that is taken as the point of departure for the planning process. Therefore the conceptual framework of "eco-strategies" was introduced as a means to an end for general descriptions of different landscape perspectives (see figure 2 and figure 3). Here, in this section of the discussion, we will use this conceptual framework for a general discussion of suggested linkages between different eco-strategies and what type of data are to be looked for and could seen as legitimate in a planning process (8.2.2. below). This will be followed by a discussion of the case of the Södra Jämtlandsfjällen using the same conceptual framework (8.2.3). Thereafter this section of the discussion will be closed with some remarks concerning the linkages between different eco-strategies and the turbulent process of planning in the Södra Jämtlandsfjällen and the parallel interest of improving the data available – i.e. a major reason for the establishment of the empirical work presented in this paper but also the fact that thereafter the data was not used (at least in the way originally planned for).

8.2.2 Suggested linkage between landscape perspective and need for data

In figure 11 below a few key-words have been suggested with regard to some general characteristics of what could be seen as basic aims and threats with regard to the different eco-strategies in a planning process (cf. the general figure 3). Of course, in a real case there are many circumstances that will influence this picture but it could be argued that these key-words are some of the interests that probably will be manifest when different landscape perspectives are claiming their interests in what type of data should be collected to feed a planning process.
Figure 11. Some suggestions with regard to what type of aims and what types of threats that probably could be found among different landscape perspectives with regard to what data a planning process should be fed with.

8.2.3 Eco-strategies, data and the case of Södra Jämtlandsfjällen

In section 5.2 above the "shift of strategy" in 1998 with regard to the proposed national park and the planning process in Södra Jämtlandsfjällen was mentioned. This shift of perspective could of course, in line with the arguments given in this paper, to some extent be described as shift in what data are to be looked for to feed the planning process and what is the legitimacy of different sources of collected data. Here it could be noted that in the beginning of 1999 a program was written with regard to the new approach (see further in Sandell, In manuscript) – and only a few months later the interest of new data to be collected was addressed to the European Tourism Research Institute (which formed the point of departure for the case study presented in this paper). This simultaneous shift in the case of Södra Jämtlandsfjällen of i) planning/landscape strategy and ii) shift of data needed and legitimacy could be illustrated as in figure 12 below, that could be compared with figure 6.
As more concrete examples we could note the following three illustrations of what type of data to be collected and what about the legitimacy of different sources of collected data (all examples touched upon in the methodological discussions of this paper):

- The strengthened interest of collecting data concerning disturbances between tourists (e.g. linked to establishments in terms of trails and mountain huts managed by the Swedish Tourist Association and the reindeer herding representing eco-strategies in line with the lower left position and the upper right, respectively). Here especially we could note the involvement of questions asked to the tourists with regard to their willingness to accept the change of routes due to the need of limiting the disturbances, plus the questions with regard to their tendencies and interest to take routes outside the organized trails according to the right of public access. The results here showed a high willingness to accept a change of routes and a very limited tendency to walk outside the trails. – That of course does not exclude that the right of public access could be seen as both an important aspect of coming to the area and, when being there, as an important possibility even though not so much used (but indicates that it is a limited problem for the reindeer herding).

- Also we could note, with regard to the legitimacy of different sources of collected data, the importance of involving pilots with good local knowledge...
and familiarity with reindeer herding when carrying out the tent counting from air.

- As a third example of the "shift" and the linkages between landscape perspective and collecting of data in this study we could note the importance of in-depth studies of non participation. The line of reasoning is that it is reasonable to believe that the results of a "general" method to a larger extent could be questioned by persons and groups with good local knowledge (compared with a more general audience in e.g. central authorities often familiar with the methods used). – And, even more important, that it is reasonable to believe that arguments like "internationally well established methods" could not (and should not!) be taken as a general key to local acceptance of the results.

8.2.4 Legitimacy and eco-strategies

In section 2.4.1 above it was argued that as a consequence of a shift in landscape and planning perspective to some extent new themes and new groups have to be taken into consideration with regard to what should be investigated (also of course involving a discussion of what type of methods that are suitable). Also it was argued that a planning process more in line with communication and bottom-up (which the "shift" discussed above must be interpreted as) must involve the fact that also not previously known themes and groups could be manifested as an outcome of the investigation. The planning process therefore in such a case must include openness for what values (attitudes, activities, groups) that has to be taken into consideration with regard to the need of knowledge and legitimacy. This in line with the basic difference between i) functional strategies of general approaches to be applied in various local contexts, and ii) the territorial adaptation strategies there the local context is to be seen as the point of departure (the left and right directions respectively, in the conceptual framework).

In the case of the Södra Jämtlandsfjällen discussed here these general arguments were very well illustrated so to say, as the close linkage between the general planning process and the proposed national park ended up in a situation there some groups in the region were so strongly against the park proposal that it was put on the shelf for an indefinite period. In other words we could say that the landscape perspective of a national park – an eco-strategy closely linked to the "museum" position in the conceptual framework and also a point of departure for the original planning process – was rejected by important groups when the planning process shifted its point of departure to the local eco-strategies.
8.3 Reflections and recommendations on methods

8.3.1 Self registration and non participation

Self registration combined with satisfactory studies on non participation has given a relatively good synoptic picture of the use of the area. This kind of base-line data for planning and EIA, i.e. data that describes present situation roughly was possible to produce. At the same time it is obvious that the non participation varies too much geographically and between different points of time for self registration alone to be used for studying frequencies and patterns of use. To make the method reliable enough alone the need for studies on non participation would be too big to make the method useful. In our case the extensive studies on non participation were made possible with labour paid by the municipalities. That is seldom the case.

Data from self registration as a basis for management actions and for estimating the qualitative aspects of disturbance for reindeer herding is not necessarily enough. It is first when the data is combined with attitudinal studies conclusions about effects of different management actions to strengthen the position of reindeer herding on outdoor recreation and tourism can be drawn.

When self registration is combined with other methods it can have an important function – to make it possible to collect name and address data and to put a small number of questions to the visitors. Names and addresses make it also possible to continue with e.g. a questionnaire study. Although the number of questions on a registration card is very limited, it can however be very valuable for the managers to get information on activities and use patterns of importance to the management of the area without being forced to carry out a questionnaire study. One example of usefulness of this kind of rough data is a combination of the share of the visitors and their place of residence and nationality on different trail-heads, which shows that the municipality of Berg has importance for international tourism in the area, something that should be taken into account in the attitude of the municipality towards actions that would support tourism.

Given the size of the area the resource use for self registration was relatively limited. Photo electronic counters need less maintenance, but give at the same time limited information compared to self registration. The initial investment is also bigger making it necessary to consider whether the equipment is to be used repeatedly. At present there is no market for lease of electronic counting equipment or consultants active using such equipment. But a combination of these methods would be a useful solution: Fredman and Hörnsten (2002) used photo-electronic counters in their study in Fulufjället to measure the number of visitors and to control self registration. The direct observations had several functions too, to control the number of visitors not filling in a registration card and passing the counter and to make interviews to find out
reasons for not registering themselves. Their methods were partly based on our experiences from Södra Jämtlandsfjällen.

Fixed counting stations combined with self registration at regular intervals would give both continuous data on number of visitors and make it possible to study changes in visitors’ attitudes. For the actual planning situation a rough picture of the patterns of use is important to be able to create unity about the situation. Data over time is however crucial to be able to follow the changes in number of visitors and patterns of use and to follow changes in visitors’ attitudes. This kind of follow up study will be carried out for example in Fulufjället during the summer 2003. In that area the national park designation may cause changes both in the number and type of visitors.

In situations where conflicts of interests exist, it is important that the picture of the present situation of planning is considered reliable but also comprehensive. In our case the combination of data from self registration and the inventory of the tents give such rough picture. Observations inside the area, such as patterns of camping, complement this picture. When these are combined and compared with overnight statistics and information on visitor’s routes, a satisfactory picture of patterns of use not only on the outskirts of the area is achieved.

An important goal of the study was to compare different methods to find methods that would not require too big resources but would still give reliable information. The role of this information in the planning and the different methods is discussed in chapter 2.3.

From our general experience some reflections and recommendations can be made regarding self registration boxes and their function: Technically they worked well, thanks to the earlier experiences from Rogen, Femundsmarka and Långfjället (Hultman and Wallsten 1988, Vistad 1995). The boxes can hold up to 400 cards at time, but that proved to be a bit too little in places with a high number of visitors. However only twice the cards ran out. How much surveillance work the boxes require depends thus on the number of visitors on the trail in question.

The information text on the outside of the boxes worked relatively well. Wallsten (1988) suggests a rather commanding choice of words; this was also discussed in our case. We decided however to try to raise interest by having word “Mountain counting” (Fjällräkning) as heading. It might have however been better to be more commanding and use words like “Stop” and “Important” as heading instead. Many of the interviewed said that they are not interested and some of them said that they thought that it was an information stand. The aim is not to force people to register themselves, but it is at the same time important to make it clear that it is very important to stop and fill in a registration card. Day-visitors may need more pronounced information. This is however based on our experiences, not on questions put to the visitors. It is very important that the text on the outside of the boxes arrests the attention since the observations of the boxes showed that a majority of visitors that stopped and opened a box also filled in a registration card.
Our studies on non participation were quite extensive, partly because of the interest in testing the reliability of the method, partly because of the available resources in form of manpower. Studies on non participation are necessary, but the amount has to be discussed with a help of pre tests and experiences from other similar areas\textsuperscript{24}. As already discussed above, it could be possible to use electronic counters for controlling self registration and use personal observations for getting information on reasons for not filling in a registration card. That would make the need for manpower much smaller.

It is obvious, that during the peak season when many people in some cases arrive at the same time (e.g. due to bus and train connections) the share of people not registering themselves may rise. The biggest reason for this is that when a registration box is already occupied, visitors may easier pass by without stopping. There is also a risk that visitors are not non participating randomly, but certain groups may be overrepresented among the visitors not filling in a registration card. This has to be noticed, because the results are supposed to describe the whole visitor population.

The non participation was 13.5% and it varied from 31.8% to 2.9%. This is satisfactory, although there is a risk that it can have been a bit higher in certain cases (see comments on studies on non participation in chapter 6.2.2). It is apparent that non participation is higher on trail heads that are used by many day-visitors and have a high number of visitors that are causing crowding next to the boxes. It is important to notice that all visitors were supposed to fill in a registration card every time they entered the area. This means that day-visitors that maybe stayed overnight outside the borders of the area, but visited the area several days in a row should have filled in a registration card every time they arrived in the area. Although it was motivated in the information text, it seemed to be hard to get people to do that. The share of these visitors among the interviewed non-registered was relatively high. As mentioned earlier in chapter 6.2.2, the follow up questions about earlier registration did not work well. This can have caused bias in the results. It might be worth discussing if this is the best way to handle the day-visitors. It is important that every visit is counted, but it could be possible to do in the same way as with the multiple day visitors, but instead of only asking them to give date for their arrival and departure, to ask them to fill in the number of visits during the given time period. In this way they should only fill in one registration card.

One central issue was question of hiking and camping outside the marked trails and surroundings of the mountain huts and stations. Questions on this were asked both on the cards and in the questionnaire. As noted above the card would mirror the intention of the visitor whereas the survey the actual results. The difference between visitors’ intentions and patterns of behaviour was one of the questions in the study. Comparison of visitors’ answers in the beginning of their visit and their answers afterwards are in line with each other. 26% of the Swedish visitors answered in the beginning of the

\textsuperscript{24} It is important to keep in mind that there may be big differences between visitors in different otherwise “similar” areas which can affect the non participation.
visit that they were planning to hike outside the marked trails. At the same time 24% of them answered in the questionnaire that they had been hiking outside the marked trails. It is only the German visitors that have underestimated to what extent they are planning to hike outside the marked trails. Because they are a minority (3.4%), it is not a problem for the rough picture we were supposed to create. Self registration gives satisfactory information even on the length of the stay, although the Swedish visitors seem to slightly underestimate the length of their stay.

8.3.2 Other methods

Flight observations give a good synoptic picture of the patterns of camping. They show that problems outside the marked trails are concentrated in a small number of attractive places. They were also important for conflict analysis and studying divergences. Although the method was expensive, it can be judged as important for both test of methods and knowledge about patterns of use in the area.

The indirect methods for estimating the total number of visitors have to be calibrated often, which can be difficult (for example number of visitors in a car or a bus). In some cases this may require so large resources that their usefulness can be questioned. The indirect methods risk missing factors that make it possible to get indications of possible tendencies in the use of an area. In our case indirect methods were used in form of the registration of cars and STF’s accommodation statistics.

The number of cars on the parking spaces correlates relatively well with the number of self registrations. There are however points of time when the results differ from each other. The registration of cars does not make it possible to estimate total number of visitors without being combined with personal observations. On the other hand they seem to give a relatively satisfactory picture of the season, with the exception of a few days when the results differ some from self registration. We did not make any observations to control the number of passengers in every vehicle (much due to available resources). This makes it impossible to see, if the differences between the registration of cars and self registration are caused by varying number of passengers in each car or by varying share of people using other means of transportation.

Registration of cars gives valuable information for authorities responsible for the parking spaces. The results are useful both for planning new parking spaces and for discussions about fees for parking. Our method of writing down the registration numbers was chosen to make it possible to control the number of “new” cars on the parking space and to count the number of days every vehicle had been standing on the parking space. It would be possible and much easier and cheaper to use pressure sensitive devices for counting cars. That would not make it possible to control the length of stay, but combined with manual observations and statistics from public transport they would give satisfactory base-line data on visitor volumes. It is however very important to understand the limitations of this method in modern planning and management situations, where visitors’ attitudes are in an important role.
A comparison of STF: s accommodation statistics and data from self registration show that the accommodation statistics give a good complementary picture of the patterns of use inside the area. On the other hand the accommodation statistics do not give a satisfactory picture of the patterns of use in whole; the outskirts of the area have a relatively high frequency of day-visits that is concentrated in certain areas (Vålådalen, Storulvån and Kläppen). Management actions such as by founding a national park in the area to further tourism development in the western parts of Jämtland can be expected to affect the outskirts of the area and the largest entrance points in a different way than the most frequently used areas and the wilderness core areas. Accommodation statistics as an indirect data source for planning have to be considered as patently unsatisfactory.

Observations done by people working in the area proved to be problematic. A large number of forms for tent observations were sent to STF personnel, county administration board, mountain rescue and Sámi villages. This method worked best in STF: s case, most likely because of the close cooperation with them in other parts of the project. The number of filled in and returned forms was very low and the observations were very occasional, with the exception of observations from two of the STF: s hut hosts. This method could give valuable additional information, especially if there would be possibility for more organised observations. It is however important that the observations can be carried out in addition to other assignments in the area, having observers for just tent observations is not likely to be cost-effective.

A general conclusion is that there are not any good short cuts to useful knowledge about outdoor recreation for planning, for management or for EIA. The need for data that supports predictions is too big to make indirect data useful alone. It is highly unclear what kind of value information on rough figures has as a basis for decision making. On the other hand it is possible to use indirect methods in combination with carefully discussed objectives of the study to be able to choose suitable data collection techniques. Most of the methods are both time and resource consuming, although there are big differences between them.

8.4 Some reflections on the survey method and results

The questionnaire worked well in spite of its size. It seems that people visiting Södra Jämtlandsfjällen are interested in the management of the area. It is a general experience from similar studies (Vistad 1995, Wallsten 1988; Emmelin and Ohlsson 1999, Emmelin and Iderot 1998) that the frequency of reply is high. Samples from the type of self selected visitor group that is produced with the self registration method are normally good keeping in mind however the problem of initial selection and the control of that. Many of the questions and question sections had been used and tested before in other studies. The reference group that we were able to use was also useful in forming the content of the questionnaire. Advantages and disadvantages with questionnaires are discussed even in chapter 4.5.8. A relatively large questionnaire sent to visitors from three different countries makes it possible to examine in detail visitors’
attitudes and experiences, something that was one of the main objectives of the study. A questionnaire requires always either a database of names and addresses or a considerable organised field effort. The data produced by self registration in itself is as discussed above useful so in many cases this would be our recommended method as opposed to field collection. The problems of manpower for this are considerable. That method seems to be most useful in cases where a large area can be controlled from a single or few points as discussed in the cases studied by Odden (1995) and Emmelin & Iderot (1998).

Of the main planning issues that we can throw light upon by the use of data reported and by further analysis some are worth mentioning here. A combination of data of domicile, age, previous experience, return visits and willingness to return show that the area is of considerable importance as what is sometimes called a “nursery” for Swedish mountain tourism. The relatively low purism score and the information on the adherence to the trails and use of facilities is a further indication of this and of the national importance of the area for recreation policy. This may imply an inherent conflict with the local and regional aims for tourism that gives larger local revenue. One of the central motives for a national park i.e. national importance to recreation is supported but the form of protection and management are not necessarily those of a traditional national park in perceived wilderness.

Our results here reported show a considerable tolerance for management actions aimed at temporal and spatial conflict resolution between hiking and reindeer herding – see chapter 7.5.6. The issue of hiking and camping outside the area of the trails can be further analysed in some detail related to the purism scale. This will make the issue of how large the group is that would be hit by restrictions but also the amenity loss if restrictions are placed on camping. However the indications given by the aerial surveys are that the level of camping in the actual conflict zones demarcated by the reindeer interests in planning the surveys is very low.

The collection of a “visitor fee” was very prominent in discussion in the planning process and in reference groups. Acceptance for such a fee of any economic significance is not high. The deterring effect on visitors is however also not very high.

Among other data that can be pointed to in relation to the planning issues the importance of the entrances that are within the municipality of Berg to the area for foreign tourists is noticeable. Here resistance to tourism development was an important factor in halting the planning process. It is tempting to speculate about the possible impact on the continuation of the process if such information had been used in a round of consultation.

It is important to note that every study on patterns of use at one point of time or over a certain period of time gives only limited information on possibilities of development of an area. It is for example dangerous to make predictions of new visitor groups or marketing areas based on data from only one area. Two types of studies are needed for discussions about development: Firstly studies on visitors’ attitudes towards dif-
ferent management actions, values etc. that will make it possible to understand and predict visitors’ reactions in a case of changed management. The type of simple “type situation” questions such as those on willingness to pay fees and the acceptance for management actions are important in such studies. Such type situations are closer to actual actions than for example the “behavioural intentions” in the Ajzen and Fishbein model (Ajzen and Fishbein 1980) often used in lieu of study of actual behaviour. We conclude that for important areas such as the present case the time and resources for a survey of the general type used here is necessary. Whether a full winter survey or the type of point studies carried out by ETOUR here is needed will depend on characteristics of the area and the known and projected uses. Secondly, complementing studies of representative samples of groups of current interest, i.e. groups that include non visitors. A study among the whole Swedish population (Heberlein et al. 2002) is one example of this kind of studies that give valuable information for local and regional planning and management. Without that kind of studies there is a risk that impact analysis, planning and management is left with too limited information and that the local information is not set in a relevant context of for example potential uses and use patterns.

8.5 A final word

We must conclude by reiterating that it would have been interesting and useful for method development to study the use of our data in a planning process carried to its conclusion in a thematic, development plan with indications of management. This does however not mean that our efforts have been in vain. Firstly the importance of the data is pointed out in the planning documents (Åre kommum 2002), where it is stated that because the planning situation right now does not allow any bigger changes, the data from the study has its greatest value as general information and in the future planning of the area. This means that thoughts of ROS-type of planning based on the knowledge of visitors’ attitudes and use of the different parts of the area will be a relevant question only in the future, if the situation changes. But the data can be used both for management and for tourism and recreation development and for monitoring. Secondly it is our intention to utilise the data, as pointed out above, for comparative purposes in the Fjäll-Mistra studies of planning for sustainable use of the Swedish mountains.

The need for theoretical frameworks within which to analyse some of the more complex issues is also obvious. In line with Hall’s (1981) famous plea for eclecticism in planning research we would however argue against the use of only one single theoretical framework if the object is insight leading to practical action such as planning and management.
References


Article III: Residents in Södra Jämtlandsfjällen: Attitudes toward windpower, national park designation, and tourism development

Kreg Lindberg
Tuomas Vuorio
Jon Martin Denstadli
Peter Fredman

Abstract

Together with the extractive industries, tourism has played a major role in the development of the Swedish mountain region during the past hundred years. An important aspect of tourism development, particularly when tourism occurs in natural environments, is to design efficient management policies to reduce negative impacts from tourism activities. Another important aspect is the resident’s attitudes towards different management actions. This paper reports a study of resident’s attitudes toward wind power, national park designation and tourism development in Södra Jämtlandsfjällen in the county of Jämtland in the Central Sweden. The population of interest for the resident survey was all adults living adjacent to the Södra Jämtlandsfjällen area. With respect to wind power, most residents are positive under most conditions. There is less support for designating the area a national park, with almost half the respondents being negative to the idea and most of these being very negative. Regarding tourism, there is strong and largely universal support for tourism, with 79% of residents being classified as fairly or very positive.

The study was made possible by means of financial support from the European Tourism Research Institute (ETOUR) and the Mountain Mistra Program: Towards Harmony Between Humans and Nature in the Mountain Region. We want to thank professor Lars Emmelin (ETOUR), Ruben Johansson (Jämtland county board) and Bertil Göransson (Åre municipality) for valuable advice during the planning process of the fieldwork and questionnaires. Stefan Göransson and Anna Hansson did a great job doing the mail survey administration and data entry.

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1. Introduction

1.1 Background

Research, both descriptive and more analytical, is important in natural area planning and management. A central question in the context of large outdoor recreation areas is the demand and supply of different services and qualities. In Swedish nature conservation and outdoor recreation planning, it has been rare to study the attitudes of local residents as an input into planning and management decisions. Research indicates rather consistent differences between visitors and managers with regard to the meanings of outdoor recreation and perceptions of negative impacts. Similar differences may exist between managers and local residents, and resident surveys such as the one described here therefore can provide valuable feedback to managers.

Much of the research concerning local community attitudes toward adjacent natural areas has been conducted in developing countries, where national park designations are relatively recent and subsistence pressure on natural resources relatively great (Ghimire and Pimbert 1997, Wells et al. 1992, West and Brechin 1991). Though they focus primarily on the role of national parks in economic development in the United States, the chapters in Machlis and Field (2000) also discuss the broader relationship between parks and local communities. For example, they note that residents often have been opposed to park designation due to concern that it may limit their economic (including subsistence) or recreational use of the area or, more fundamentally, that it may reduce local political or economic control over the area's resources. Sandell (2000; summarized in 2001) have studied the proposal of the Kiruna national park in the Northern Sweden. Although the proposal aimed to establish the planning and management to some extent locally, it was met by strong resistance mostly based on the locals’ fear of restrictions in the traditional use of the area for fishing, hunting and snowmobiling. He also points out the lack of alliances as one of the main reasons for the unsuccessful process, many of the partners – for example tourism industry, nature conservation and the recreationists, did not find their interests met.

Several studies have shown that tourism has the potential to enhance park-community relationships, as tourism associated with the park can provide local economic benefits and possibly offset lost economic opportunities resulting from park designation (Lindberg 2001; Machlis and Field 2000; Nepal 2000). However, tourism can also generate negative impacts both within parks (e.g., Hammitt and Cole 1998) and within local communities (e.g., Pearce, Moscardo, and Ross 1996).

Resident attitudes is a well-researched field within tourism, although many studies have been ad hoc, and there remains limited development of conceptual models. A common approach involves adapting social exchange theory to the community-tourism context. In brief, this posits that attitudes toward tourism will be a function of the benefits and costs that residents receive. Benefits primarily focus on economic
variables such as job creation or generation of revenue for local government. However, benefits can be broader, including items such as expanded shopping and recreational opportunities that were developed primarily for tourists but that also benefit residents.

Crime and congestion are commonly-cited costs, though, as with benefits, costs can be quite varied and might include, for example, increased competition for recreational resources. In locations like the study area, where recreational resources are largely nature-based (as opposed to developed, often urban, recreation opportunities like theme parks), attitudes toward tourism and national park designation may overlap. For example, a resident may generally support tourism, and park designation that attracts more visitors to the area, but may be concerned that tourists will make local hiking or skiing areas more crowded—or that increased visitation may increase pressure to limit certain types of local recreation, such as snowmobiling.

Other factors, such as resident environmental attitudes and attachment to community, may also affect attitudes toward tourism insofar as tourism development is expected to affect these variables. Gursoy et al (2001), Lindberg and Johnson (1997), and Pearce, Moscardo, and Ross (1996) provide overviews of resident attitude concepts and studies. Most studies evaluate intra-community attitudes (e.g., how residents vary within a single community or region), but there have also been some evaluations of attitudes across types of communities. For example, in their study of economic benefits from the Great Basin National Park in the US, Dawson, Blahna and Keith (1993) quote Allen et al. (1993) as finding that residents in communities with low economic activity and low tourism development tend to have favourable attitudes toward tourism—they have high hopes and expectations for future tourism development as an economic engine. Although adjacent to the developed ski resort of Åre Fem Byar, the study region itself is characterised by relatively low development, both generally and with respect to tourism, so one would expect positive attitudes.

A variety of academic and non-academic studies of public attitudes toward wind power have been conducted. Most show that people support the concept of renewable energy and wind power. However, when it comes to specific projects located in one's local area, support vanishes (Gipe 1995, Bishop and Proctor 1994). This “not in my back yard” (NIMBY) explanation has been questioned, with Wolskin (1996) concluding that negative attitudes can also depend on attitudes towards the developers and other people involved in the planning process. Erp (1997) finds attitudes towards the developers and local decision makers as one of the central factors. Also of interest is that studies indicate that acceptance is higher in areas where people already have experience with wind power (Simon 1996). Andersen et al. (1997) found that people living in urban areas are more negative than those living in the countryside. Hörnsten (2002) discusses the relationship between tourists, tourism and wind power. The results show that it is possible to combine tourism and wind power as long as wind power mills are not placed in the areas that are of importance for tourism. Krohn and Damborg (1999) conclude by saying “information and dialogue is the road to acceptance”.

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The results presented here summarise responses to the resident survey conducted in early 2001 in Södra Jämtlandsfjällen. The survey covered a wide range of topics, including resident use of local natural areas, recreation experience preferences, support for on-site management actions, attitudes toward windpower, attitudes toward national park designation, and attitudes toward tourism. As a result, it was not possible to evaluate any single topic in much depth. Responses on several topics (notably the latter ones) are presented here. Readers may be interested in the report "Skiers and snowmobilers in Södra Jämtlandsfjällen: Are there recreation conflicts?" which summarises additional results (Lindberg et al., 2001).

Survey wording and frequency distributions are presented in the report "Skiers, snowmobilers, and residents in Södra Jämtlandsfjällen: Frequency distributions" (hereafter referred to as the "frequency distribution report"). This survey is one of the six surveys that were conducted: On-site (completed by respondents while snowmobiling or skiing); 1. Snowmobiler, 2. Skier (Main), 3. Skier (Storulvån) and Mail (completed by respondents at home); 1. Snowmobiler, 2. Skier, 3. Resident. The resident questionnaire was send to 444 people living in the villages close the area.

1.2 Södra Jämtlandsfjällen mountain area

Södra Jämtlandsfjällen is located in central Sweden, bordering Norway to the west. The total area is about 2300 km$^2$ and consists mostly of bare mountains and forested mountain valleys. The size of the area from north to south is about 40 kilometres.

The area is the central part of Sweden’s southern mountain region and the landscape is diverse, with the highest peaks at 1700 m above sea level. It is the most alpine area in this part of the mountain region, and higher and steeper mountains can be found only in the northern counties. Sweden’s most southern glacier is found in the area, and several threatened species such as gyr falcon, golden eagle, great snipe, wolverine and lynx breed in the area.

Södra Jämtlandsfjällen has the densest network of publicly-managed trails in the Swedish mountains. The system includes about 500 kilometres of marked summer and winter trails and about 200 kilometres of snowmobile trails. There are three mountain lodges and six huts in the area managed by the Swedish Tourist Association. These services provide overnight facilities, food and other supplies. There are also several private hotels and cabins located just outside the area, and some of Sweden’s major downhill ski resorts are only ten to twenty kilometres away. Many of the winter trails in the area are marked with poles with red crosses on top, which is typical for Swedish standards. For an overview of tourism in the Swedish mountain region see Fredman et al. (2001) and Heberlein, Fredman and Vuorio (2002).

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25 That report – which is available from the authors – also contains results that are not summarised in this report.
The whole area is used for reindeer herding, fishing and hunting. Outdoor recreation is extensive, with some of the trails being among the most frequently used in the Swedish mountains. The number of visitors has been measured only once before – in the summer of 1999 – when the area had about 18,000 visits (Vuorio, Emmelin, Gudmundson and Göransson, 2000a, 200b). The eastern parts are a nature reserve, with, for example, prohibitions on logging. Most of the area is publicly owned.
Figure 1. Map of study area
2. Sampling and survey administration

The population of interest for the resident survey was all adults living in the Södra Jämtlandsfjällen area, and the sampling frame was the PAR Adressregistret list of adults registered as such. The survey was sent to every adult from this list with an address in Vålådalen, Storsjö Kapell, and Ljungdalen, as well as every third adult in Undersåker. The surveys were developed during the early winter of 2001 and were pre-tested in early March. The final survey was mailed on 26 March. A reminder letter was mailed 6 April, and a second letter and replacement survey was mailed 23 April, in each case only to residents who had not returned completed surveys by those dates.

In order to ensure that results are as representative and credible as possible, it is important to obtain the highest possible response rate. An incentive (10:an lottery ticket) was used to thank survey participants and to encourage high response. In addition, the survey was publicised in the local newspaper. Of the 444 resident surveys mailed, one was returned as non-deliverable and 291 returned completed, which account for a 66% response rate.

It should be noted that the response rate per se is not important. What is important is that the people who completed the survey are representative of the resident population as a whole. Thus, the age and gender characteristics of those who returned completed surveys (the respondents) were compared with those of the regional population as a whole. Demographic data are only available at the municipality (kommun) level, while the study area represented only parts of Berg and Åre municipalities. Therefore, any comparison is limited, especially if there is demographic variability across different areas in each municipality (e.g., if older or younger people are concentrated in towns). Nonetheless, it can provide some indication of the representativeness of responses.

The following table compares the age distribution for completed surveys with the age distribution of the municipalities, using 1999 data from Statistics Sweden (Statistiska centralbyrån).
Table 1. Age distributions for completed surveys and of the municipalities. Percent

<table>
<thead>
<tr>
<th>Age range</th>
<th>Percent of adults</th>
<th>Berg Municipality</th>
<th>Åre Municipality</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-24</td>
<td>11</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>25-44</td>
<td>39</td>
<td>28</td>
<td>35</td>
</tr>
<tr>
<td>45-64</td>
<td>42</td>
<td>34</td>
<td>32</td>
</tr>
<tr>
<td>65-79</td>
<td>8</td>
<td>21</td>
<td>16</td>
</tr>
<tr>
<td>80+</td>
<td>0</td>
<td>10</td>
<td>7</td>
</tr>
</tbody>
</table>

Keeping in mind the limitation noted above, these results indicate that older residents are under-represented in the sample, while younger residents are over-represented. Such results are not uncommon in community surveys, but the findings reported below should be read with this in mind.

With respect to gender, in both municipalities 51 percent of the population is male and 49 percent female. In the sample, 52 percent of the population is male and 48 percent is female, which is a good match to the population.
3. Attitudes toward windpower

The resident survey asked for opinions regarding plans to build windmills in Södra Jämtlandsfjällen. The four attitude statements (q16 and q17a-c)\textsuperscript{26} took different perspectives. The first expressed a general view on windpower in the mountains, while the remainder introduced the consequences of there being windmills in the area. Thus, attitude statements were made under four different conditions (NB: the levels used here reflect a different question-order than that used the questionnaire, with 17c coming before 17a and b):

\textit{Level 1 (q16):} General view on windpower in the mountains; respondents were not informed of any effects of the development.

\textit{Level 2 (q17c):} Respondents were informed that windmills would cause some visual changes in the landscape, but the focus was on the knowledge that windmills existed in the area rather than on their visual impact.

\textit{Level 3 (q17a):} Respondents were told that one or two windmills would be visible from their residence.

\textit{Level 4 (q17b):} Respondents were told that 10-12 windmills, in a group, would be visible from their residence.

Figure 2 illustrates the percentages of respondents stating they are positive/very positive (labelled positive) or negative/very negative (labelled negative) toward windpower under the different conditions.

\textsuperscript{26} q16 refers to question 16 in the questionnaire, q17 refer to question 17 etc. (see Appendix).
At the most general level (Level 1), a majority are positive toward windpower – almost two-thirds state that they are positive to the idea. Only 16 percent are negative, while every fifth takes a neutral stand (distributions are given in the frequency distribution report). However, when the drawbacks of building windmills are introduced people's attitudes become less positive. At level 2, support drops to 52 percent. What is interesting is that the number of negatives does not increase at this level; rather, more people become neutral. However, with the move to level 3 (one or two mills visible from the residence), there is both a decrease in support and an increase in opposition, with only 39 percent being positive and 23 percent negative. Lastly, only 22 percent are positive to development that would involve seeing 10-12 windmills from their house, 32 percent are neutral, while 46 percent express negative feelings under these conditions.

Table 2 summarises attitudes for different resident groups. No major differences are found across groups, except that people who have recently moved to the municipality (lived there for 1-5 years) are less supportive than people who have lived there for six years or more. One possible reason for this is that the natural features of the area may have been an important motive for moving to the area, such that any changes to these features would be opposed. The effects of these variables were tested in a series of regression analysis (see Tables A1-A4 in Appendix). However, these multivariate analyses generally had low explanatory power, which is consistent with the findings shown in Table 2—that opinion is largely uniform across the community.

The overall impression is that most residents are fairly positive toward plans to build windmills in Södra Jämtlandsfjällen, assuming that one is not able to see the mills from one's residence. Under these conditions, more than half are supportive, while only 15 percent are negative. If windmills become visible from residential areas, support drops significantly.
Table 2. Attitudes toward wind power within different resident groups. Percentage stating they are positive or very positive at different level of restrictions

<table>
<thead>
<tr>
<th></th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
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<td><strong>Gender</strong></td>
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<td></td>
<td></td>
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<tr>
<td>- Woman</td>
<td>65</td>
<td>53</td>
<td>37</td>
<td>20</td>
</tr>
<tr>
<td>- Man</td>
<td>62</td>
<td>51</td>
<td>39</td>
<td>25</td>
</tr>
<tr>
<td><strong>Education level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Primary/secondary school</td>
<td>66</td>
<td>54</td>
<td>40</td>
<td>24</td>
</tr>
<tr>
<td>- University</td>
<td>53</td>
<td>46</td>
<td>30</td>
<td>17</td>
</tr>
<tr>
<td><strong>Income from tourism?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>63</td>
<td>56</td>
<td>40</td>
<td>24</td>
</tr>
<tr>
<td>No</td>
<td>64</td>
<td>50</td>
<td>38</td>
<td>21</td>
</tr>
</tbody>
</table>
| **No. of years lived in municipality**
  *                             |         |         |         |         |
| 0-5                            | 49      | 43      | 29      | 12      |
| 6-15                           | 61      | 56      | 42      | 25      |
| 16 or longer                   | 68      | 51      | 39      | 24      |
| **Place attachment**
  27                             |         |         |         |         |
| High level                     | 65      | 53      | 37      | 22      |
| Medium level                   | 69      | 49      | 36      | 21      |
| Low level                      | 49      | 53      | 39      | 19      |
| **Familiarity with SJ**        |         |         |         |         |
| High                           | 67      | 56      | 30      | 18      |
| Medium                         | 63      | 53      | 43      | 25      |
| Low                            | 61      | 47      | 43      | 25      |
| **Activity**                   |         |         |         |         |
| None                           | 64      | 36      | 43      | 14      |
| Skiing                         | 57      | 57      | 39      | 21      |
| Snowmobiling                   | 68      | 43      | 31      | 18      |
| Dual activity                  | 65      | 54      | 41      | 25      |

*Chi square: p<.10

27 A factor analysis was run for q9. The analysis came out with a one-factor solution. The "place attachment" variable used here and elsewhere in the report is an average of the seven items forming the factor.

28 NB: All references to skiing in this report are to cross-country skiing.
4. Attitudes toward national park designation

Residents were also asked their opinion regarding designating Södra Jämtlandsfjällen as a national park. Figure 3 summarises resident attitudes (q18). Almost half are negative to the plans, of which a majority is very negative. Only 26 percent of the respondents are positive, while 13 percent are neutral and an equivalent percentage have not yet made up their minds. Thus, the majority of residents do not support designation.

![Figure 3. Residents attitudes toward national park designation. Percent](image)

While the community is fairly united on the question of windpower, there seem to be substantial disagreement regarding national park designation. Table 3 summarises attitudes for resident groups. The table demonstrates significant differences between the following groups:

- People holding a university degree are more positive to the plans than are respondents with less education.

- People who have lived in the area for 16 years or longer are less supportive of the plans than are those who have recently moved to the area.

- People who express a high level of place attachment to Södra Jämtlandsfjällen hold more negative attitudes than do others.

- People who visit the area regularly are less supportive of the plans than are less frequent visitors.

- Snowmobilers are more negative to making Södra Jämtlandsfjällen a national park than are skiers.
Thus, results indicate that the longer a person has lived in the area, the more he or she uses the area for recreational purposes and is attached to the area, the more negative that person is toward designating Södra Jämtlandsfjällen a national park. This may express a concern for a more restrictive policy on the use of the area. This presumably is the case for the snowmobilers, who are generally negative to designation–three out of four are opposed.

Table 3. Attitudes toward national park designation within residential groups. Percent

<table>
<thead>
<tr>
<th></th>
<th>Negative</th>
<th>Neutral</th>
<th>Positive</th>
<th>Don't know</th>
<th>Total</th>
<th>Average³⁹</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>48</td>
<td>26</td>
<td>13</td>
<td>13</td>
<td>100</td>
<td>2.5</td>
</tr>
<tr>
<td>Gender</td>
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<tr>
<td>- Woman</td>
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<td>- Man</td>
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<td>11</td>
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<td>2.3</td>
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<tr>
<td>Education level*</td>
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<td>Income from tourism?</td>
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<td>9</td>
<td>28</td>
<td>13</td>
<td>100</td>
<td>2.5</td>
</tr>
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<td>No. of years lived in munici-</td>
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<tr>
<td>pality*</td>
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<tr>
<td>0-5</td>
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<td>44</td>
<td>14</td>
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<td>6-15</td>
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<td>14</td>
<td>100</td>
<td>2.8</td>
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<tr>
<td>16 or longer</td>
<td>55</td>
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<td>18</td>
<td>13</td>
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<tr>
<td>Place attachment*</td>
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<tr>
<td>High level</td>
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<td>18</td>
<td>9</td>
<td>100</td>
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<tr>
<td>Medium level</td>
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<td>43</td>
<td>18</td>
<td>100</td>
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<td>11</td>
<td>100</td>
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<tr>
<td>Familiarity with SJ*</td>
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<tr>
<td>High</td>
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<td>6</td>
<td>100</td>
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<td>22</td>
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<td>18</td>
<td>31</td>
<td>38</td>
<td>100</td>
<td>3.5</td>
</tr>
<tr>
<td>Skiing</td>
<td>15</td>
<td>16</td>
<td>54</td>
<td>15</td>
<td>100</td>
<td>3.7</td>
</tr>
<tr>
<td>Snowmobiling</td>
<td>74</td>
<td>6</td>
<td>14</td>
<td>6</td>
<td>100</td>
<td>1.8</td>
</tr>
<tr>
<td>Dual activity</td>
<td>55</td>
<td>13</td>
<td>19</td>
<td>13</td>
<td>100</td>
<td>2.3</td>
</tr>
</tbody>
</table>

*Chi square: p<.05

²⁹ In the calculations of averages "don't know" was set to missing value.
A regression analysis was used to further evaluate the effects of these variables (see Table A5 in appendix). The analysis indicates that best predictors of attitude were activity (with snowmobilers being less supportive than skiers), familiarity with the area (support decreases as number of days spent per year increases), education (support increases as educational level increases), and number of years respondent has lived in the municipality (support decreases as number of years increases).

Residents are also split in their view on the potential benefits of making Södra Jämtlandsfjällen a national park (Table 4). About one third think it will be positive for tourism development, 39 percent believe not, while 26 percent are unsure (q20). With respect to the residents' use of the area, only a few (eight percent) believe that they will spend more time in the mountains if it is designated a national park. As above, there are significant differences across groups, and the disagreements follow the same lines as previously:

People who recently have moved to the area have greater belief in the positive effects on tourism than established residents have. To a greater degree, they also believe they will spend more time in the area if it is made a national park.

People who express a high level of place attachment to Södra Jämtlandsfjällen have less belief in national park designation attracting more tourists than others. There are also differences concerning how designation will influence the group's use of the mountains.

People who rarely visit Södra Jämtlandsfjällen have greater belief in the positive effects on tourism than those familiar with the area. They also report more regular use of the area if it were designated a national park.

Snowmobilers are doubtful that a designation will attract more tourists, while skiers believe it will. About one-fifth of the skiers indicate they will spend more time in Södra Jämtlandsfjällen if it is made a national park, while only six percent of the snowmobilers report the same.

Those supporting a national park designation have stronger belief in it attracting visitors than those not supporting the idea. Also, more than a quarter of the supportive residents say the area will become more attractive to them.
Table 4. Outcomes of designating Södra Jämtlandsfjällen a national park. Percent

<table>
<thead>
<tr>
<th></th>
<th>Area will be more attractive to visit for me</th>
<th>Designation will be positive for tourism</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>All</td>
<td>8</td>
<td>67</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Woman</td>
<td>8</td>
<td>64</td>
</tr>
<tr>
<td>- Man</td>
<td>8</td>
<td>70</td>
</tr>
<tr>
<td><strong>Education level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Primary/secondary school</td>
<td>8</td>
<td>67</td>
</tr>
<tr>
<td>- University</td>
<td>11</td>
<td>72</td>
</tr>
<tr>
<td><strong>Income from tourism?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7</td>
<td>73</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>64</td>
</tr>
<tr>
<td><strong>No. of years lived in municipality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-5</td>
<td>16</td>
<td>61</td>
</tr>
<tr>
<td>6-15</td>
<td>6</td>
<td>70</td>
</tr>
<tr>
<td>16 or longer</td>
<td>6</td>
<td>69</td>
</tr>
<tr>
<td><strong>Place attachment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High level</td>
<td>6</td>
<td>81</td>
</tr>
<tr>
<td>Medium level</td>
<td>11</td>
<td>51</td>
</tr>
<tr>
<td>Low level</td>
<td>11</td>
<td>44</td>
</tr>
<tr>
<td><strong>Familiarity with SJ</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>6</td>
<td>82</td>
</tr>
<tr>
<td>Medium</td>
<td>7</td>
<td>65</td>
</tr>
<tr>
<td>Low</td>
<td>11</td>
<td>54</td>
</tr>
<tr>
<td><strong>Activity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>-</td>
<td>50</td>
</tr>
<tr>
<td>Skiing</td>
<td>20</td>
<td>52</td>
</tr>
<tr>
<td>Snowmobiling</td>
<td>6</td>
<td>84</td>
</tr>
<tr>
<td>Dual activity</td>
<td>5</td>
<td>70</td>
</tr>
<tr>
<td><strong>National park designation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>28</td>
<td>38</td>
</tr>
<tr>
<td>Neutral</td>
<td>3</td>
<td>59</td>
</tr>
<tr>
<td>Negative</td>
<td>1</td>
<td>91</td>
</tr>
</tbody>
</table>

a q19 (more attractive for me): Chi square: p<.05
b q20 (attract more tourists): Chi square: p<.05
5. Attitudes toward tourism

5.1 Overall attitudes and preferences

The questionnaire included four questions on resident attitudes toward tourism. The first asked for opinions on the current number of tourists in the area during the winter season (q23), the second a general opinion about tourism in the area (q24), the third preferences for growth in tourism in the next five years (q25), and the last preference for growth in the number of foreign tourists (q26). Answers to these questions are highly correlated (Pearson's r between .45 and .76). The reliability analysis produced a coefficient alpha of .85, suggesting that the variables are indicators of an underlying "attitude toward tourism" construct. Thus, the following analyses will use the composite variable, i.e., the average score on the four questions (separate scores are quoted in the frequency distribution report). Respondents are categorised into four attitude groups:

1. Very positive: Attitude score 4.75 or higher
2. Fairly positive: Attitude score between 3.75 and 4.70
3. Neutral: Attitude score between 2.75 and 3.70
4. Negative: Attitude score less than 2.75

![Bar chart showing residents' attitudes toward tourism in Södra Jämtlands-fjällen. Percent]

Note that responses to q23 were reverse coded for this analysis, such that higher values represented opinions of too few tourists in the area.

30
In general residents have positive attitudes toward tourism in the area, with 37 percent being very positive, 42 percent fairly positive, 20 percent neutral, and only one percent (three respondents) negative. Thus, four out of five residents support tourism in Södra Jämtlandsfjällen.

Table 5 gives results for resident groups. Within all groups there is a majority of people supporting tourism – the highest percentage of negative respondents is three percent. The least supportive are those who want a national park in Södra Jämtlandsfjällen; only 20 percent of these express very positive attitudes toward tourism. Nonetheless, a majority are fairly positive, and only one percent is negative. No significant differences are found between the other groups. However, some tendencies can be observed. The percentage of "very positives" is higher for established residents than for people who have moved to the area more recently. People with strong emotional ties to Södra Jämtlandsfjällen seem to be more positive to tourism than are people less attached to the area. It is also interesting to note that residents who have no direct income from tourism are as positive as people having tourism as their primary or secondary source of income. A regression analysis was run in order to test for controlled effects (see Table A6 in Appendix). Results were similar to those from the bivariate tests.
Table 5. Attitudes toward tourism within residential groups

<table>
<thead>
<tr>
<th></th>
<th>Negative</th>
<th>Neutral</th>
<th>Fairly positive</th>
<th>Very positive</th>
<th>Total</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>1</td>
<td>20</td>
<td>42</td>
<td>37</td>
<td>100</td>
<td>3.1</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Woman</td>
<td>-</td>
<td>15</td>
<td>46</td>
<td>39</td>
<td>100</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>- Man</td>
<td>2</td>
<td>25</td>
<td>38</td>
<td>35</td>
<td>100</td>
</tr>
<tr>
<td><strong>Education level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Primary/secondary school</td>
<td>1</td>
<td>20</td>
<td>40</td>
<td>39</td>
<td>100</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>- University</td>
<td>-</td>
<td>25</td>
<td>53</td>
<td>22</td>
<td>100</td>
</tr>
<tr>
<td><strong>Income from tourism?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>-</td>
<td>16</td>
<td>45</td>
<td>39</td>
<td>100</td>
<td>3.2</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>24</td>
<td>40</td>
<td>34</td>
<td>100</td>
<td>3.1</td>
</tr>
<tr>
<td><strong>No. of years lived in municipality</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-5</td>
<td>3</td>
<td>24</td>
<td>47</td>
<td>26</td>
<td>100</td>
<td>3.0</td>
</tr>
<tr>
<td>6-15</td>
<td>-</td>
<td>16</td>
<td>53</td>
<td>31</td>
<td>100</td>
<td>3.2</td>
</tr>
<tr>
<td>16 or longer</td>
<td>1</td>
<td>20</td>
<td>37</td>
<td>42</td>
<td>100</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>Place attachment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High level</td>
<td>1</td>
<td>17</td>
<td>40</td>
<td>42</td>
<td>100</td>
<td>3.2</td>
</tr>
<tr>
<td>Medium level</td>
<td>3</td>
<td>20</td>
<td>45</td>
<td>32</td>
<td>100</td>
<td>3.1</td>
</tr>
<tr>
<td>Low level</td>
<td>-</td>
<td>36</td>
<td>36</td>
<td>28</td>
<td>100</td>
<td>2.9</td>
</tr>
<tr>
<td><strong>Familiarity with SJ</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>1</td>
<td>17</td>
<td>42</td>
<td>40</td>
<td>100</td>
<td>3.2</td>
</tr>
<tr>
<td>Medium</td>
<td>1</td>
<td>21</td>
<td>43</td>
<td>35</td>
<td>100</td>
<td>3.1</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>25</td>
<td>41</td>
<td>33</td>
<td>100</td>
<td>3.1</td>
</tr>
<tr>
<td><strong>Activity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>-</td>
<td>23</td>
<td>31</td>
<td>46</td>
<td>100</td>
<td>3.2</td>
</tr>
<tr>
<td>Skiing</td>
<td>2</td>
<td>18</td>
<td>56</td>
<td>24</td>
<td>100</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>National park designation</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>1</td>
<td>22</td>
<td>57</td>
<td>20</td>
<td>100</td>
<td>3.0</td>
</tr>
<tr>
<td>Neutral</td>
<td>3</td>
<td>24</td>
<td>49</td>
<td>24</td>
<td>100</td>
<td>2.9</td>
</tr>
<tr>
<td>Negative</td>
<td>1</td>
<td>19</td>
<td>34</td>
<td>46</td>
<td>100</td>
<td>3.2</td>
</tr>
</tbody>
</table>

*Chi square: p<.05
The resident survey also asked for opinions on how tourism ought to develop with respect to the number of skiers and snowmobilers visiting the area (q27, q28). The development can take several directions:

1. More skiing (XC) and less/unchanged snowmobiling (SM)
2. More snowmobiling and less/unchanged skiing
3. More of skiing and snowmobiling
4. Less of both
5. Unchanged number of visitors

Figure 5 summarises residents' opinion on this matter.

![Figure 5. Preferred direction for development of tourism in Södra Jämtlandsfjällen. Percent](image)

Half of the respondents would like to see an increase in ski tourism while maintaining or reducing the number of snowmobilers. Almost 30 percent support increases in both skiing and snowmobiling. Sixteen percent want the number of visitors to remain at today's level, while five percent want it reduced. Thus, although a great majority of the residents support tourism in Södra Jämtlandsfjällen, results indicate that there is variability in preferences regarding how the area is to develop, both with respect to the number of visitors and the distribution between skiers and snowmobilers.

### 5.2 Attitude segments

The preceding analyses have provided insight into resident opinions toward future development of Södra Jämtlandsfjällen. This last section summarises results by defining segments of respondents with similar attitude profiles, i.e., groups of residents that share the same opinions toward national park designation, tourism, and the number of
skiers/snowmobilers in the area. The segmentation analysis serves two purposes. First, it gives a more general perspective of differences in the community in the sense that it identifies groups that differ from each other, the size of the various groups, and the attitudinal and demographic characteristics of the groups. Second, it gives decision-makers a basis for strategy development and targeted information campaigns.

The most commonly used technique for this purpose is cluster analysis. Cluster analysis is the name for a group of multivariate techniques whose primary purpose is to group objects (here: respondents) based on the characteristics they possess. Cluster analysis classifies respondents so that each is very similar to the others in the cluster/segment with respect to some predetermined selection criterion (here: attitudes toward future developments in Södra Jämtlandsfjällen). This creates a situation of homogeneity within clusters and heterogeneity between clusters (Hair et al 1995). The different steps in the cluster analysis are described in the Appendix.

The clustering procedure ended up with a three-cluster solution. The clusters contained 211 respondents, i.e., 80 respondents were excluded due to missing values on one or more of the clustering variables. Fifty-two respondents (25 percent) belong to the first cluster, 126 (60 percent) to the second, and 33 (15 percent) to the third. The means for the clustering variables are reported in Table 6. A high score indicates a positive attitude toward the suggested development, a low score a negative attitude.

Table 6. Cluster means

<table>
<thead>
<tr>
<th>Cluster</th>
<th>No. of members</th>
<th>National park designation*</th>
<th>Tourism in the area*</th>
<th>No. of skiers*</th>
<th>No. of snowmobilers*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster 1</td>
<td>52</td>
<td>4.5</td>
<td>4.3</td>
<td>4.6</td>
<td>2.5</td>
</tr>
<tr>
<td>Cluster 2</td>
<td>126</td>
<td>1.5</td>
<td>4.3</td>
<td>4.3</td>
<td>3.4</td>
</tr>
<tr>
<td>Cluster 3</td>
<td>33</td>
<td>3.5</td>
<td>3.6</td>
<td>3.4</td>
<td>2.8</td>
</tr>
</tbody>
</table>

*One-way Anova: p<.05

The cluster means describe respondent attitudes. However, to give a meaningful description of the clusters, information on demographic and activity characteristics is warranted. Table 7 compares characteristic across clusters.

The first cluster can best be described as “Those who want a regulated development of tourism in the area”. The most significant aspect of these people is their support for a national park designation and more skiers in the area. Almost half of the respondents have income from tourism, so they obviously support the development of tourism in

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31 Attitude toward windpower is left out of the analysis due to limited variation in attitudes.
the area, though only 25 percent are characterised as very positive. However, results indicate that they want a regulated development with respect to snowmobiling in particular. These residents want to alter the distribution of tourists in Södra Jämtlandsfjällen, increasing the number of skiers and reducing the number of snowmobilers. Referring to the results above, these attitudes were particularly expressed by people who have moved to the municipality more recently. Thus, not surprisingly, the average number of years in the municipality is lower in this group compared to the other clusters. Support for increasing the number of ski tourists also reflects their own activity pattern; they prefer to ski rather than snowmobile. The average age of the respondents in this cluster is 42. Twenty-seven percent hold a university degree, which is significantly higher than in the other groups.

The second cluster has the largest number of respondents, and these respondents can be described as "Active people who do not want restrictions". Two significant characteristics of this group are their negative attitudes toward national park designation, and their relatively high score on the snowmobile variable, i.e., more than the other groups they want an increase in snowmobiling in the area. Since they would also generally like more skiers, respondents in this segment can best be described as "more of both." The lack of support for national park designation appears partly due to a concern that this will reduce the possibilities for developing snowmobile tourism. However, it may also limit their personal use of the area. As the description indicates, respondents in this cluster spend a lot of time in Södra Jämtlandsfjällen. Half of them are in the mountains more than 21 days every winter, mainly for snowmobiling, but they also do some skiing. Almost 80 percent are characterised as having strong emotional ties to the area. This presumably reflects their usage of the area, but just as important is their length of residence in the municipality. On average they have lived in the municipality for more than 30 years; about half of them have resided in the area all their lives. The average age of the respondents in this cluster is 49, significantly higher than in cluster 1 and 3. Only 13 percent have education at the university level, the lowest for all groups.
Table 7. Characteristic comparisons across clusters

<table>
<thead>
<tr>
<th></th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Cluster 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>% positive toward NP designation</td>
<td>96</td>
<td>0</td>
<td>49</td>
</tr>
<tr>
<td>% very positive toward tourism in area</td>
<td>25</td>
<td>48</td>
<td>3</td>
</tr>
<tr>
<td>% in favour for increased no. of snowmobilers</td>
<td>19</td>
<td>41</td>
<td>0</td>
</tr>
<tr>
<td>% in favour for increased no. of skiers</td>
<td>96</td>
<td>80</td>
<td>46</td>
</tr>
<tr>
<td>% highly familiar with area</td>
<td>33</td>
<td>49</td>
<td>9</td>
</tr>
<tr>
<td>% with high level of place attachment</td>
<td>41</td>
<td>78</td>
<td>33</td>
</tr>
<tr>
<td>% with income from tourism</td>
<td>46</td>
<td>41</td>
<td>30</td>
</tr>
<tr>
<td>% men</td>
<td>44</td>
<td>58</td>
<td>52</td>
</tr>
<tr>
<td>% with university degree</td>
<td>27</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Average no. of days of snowmobiling per year</td>
<td>7</td>
<td>20</td>
<td>9</td>
</tr>
<tr>
<td>Average no. of days of skiing per year</td>
<td>15</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Average no. of years lived in municipality</td>
<td>19</td>
<td>32</td>
<td>26</td>
</tr>
<tr>
<td>Average age c</td>
<td>42</td>
<td>49</td>
<td>41</td>
</tr>
</tbody>
</table>

a Chi-square: p<.05
b Chi-square: p<.10
c One-way Anova: p<.05

The third cluster is the smallest, with 33 respondents or 15 percent of the sample. Respondents in this cluster can best be described as "The people who want things to be as they are". Only three percent are very positive to tourism; a majority wants the number of tourists to remain at today's level. Partly this may be due to the relatively low percentage of people whose income is from tourism. When it comes to choosing between skiers and snowmobilers they prefer the former group, although they are not enthusiastic toward more skiers in the area – more than half want the number to remain stable, while the rest prefer a small increase. With respect to a national park designation, the majority is neutral, the rest somewhat positive. The respondents in this cluster both ski and snowmobile, but they are not as devoted to the area as the two other groups. Only nine percent are characterised as highly familiar with the area, and only 33 percent have a high level of place attachment, significantly less than in Cluster 1 and 2. This may explain the lack of a more pronounced view on the question of a national park designation. The average age of the respondents in this cluster is 41, and they have lived in the municipality for an average of 26 years.
To conclude the attitude section: \(^{32}\)

- About 15 percent of the residents do not want any further development of tourism in Södra Jämtlandsfjällen.
- About one fourth of the residents want a regulated development of tourism that includes national park designation and a more restrictive regime with respect to snowmobiling.
- A majority of about 60 percent wish to increase both ski and snowmobile tourism in the area, the emphasis being on skiing. These people are negative to the plans of designating Södra Jämtlandsfjällen as a national park.

5.3 Information acquisition

A significant factor in attitude formation is information. The resident survey addressed four questions on resident information acquisition:

- Frequency with which respondents receive information from various sources: newspapers, local government, politicians, the tourism industry, friends and family, and other residents. (q29)
- The reliability of each source, i.e. is the information trustworthy? (q30)
- The information source's perspective on tourism – is the information generally negative, positive or neutral? (q31)
- In what way do the sources influence respondents? (q32)

Friends and family are both the most frequent and most reliable source of information (Figure 6). Forty-seven percent report that they often get information and/or opinions on tourism from friends/family, while 50 percent says it happens from time to time. Thus, tourism is a common subject of conversation among people in the community, and it produces a lot of involvement from the residents. Not surprisingly, information from friends and family is regarded as reliable – 47 percent describe it as very reliable, only three percent as unreliable.

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\(^{32}\) The cluster analysis is a multivariate analysis (incorporates respondent attitudes toward different aspects of tourism development), and, therefore, is not directly comparable to results from the bivariate analysis in earlier sections.
Perhaps somewhat more surprising is that the next most reliable information source is the industry itself. Although regarded as significantly less reliable than friends and family, 23 percent still consider it very reliable and only seven percent unreliable. The industry also seems to communicate relatively frequently with the residents; 33 percent report that they often get information and/or opinions on tourism from the industry, while 61 percent says it happens from time to time. In fact, residents report that they more often get information from the industry than via newspapers, and newspaper articles are not considered as reliable. One must take into account that ca 40 percent of the respondents have income from tourism, which may explain positive evaluations of the tourism industry as an information source – these people are more positive to the information provided by the industry than those not working with tourism. Equally reliable as information from the industry is information from other residents, but this is a less frequent source, with 21 percent reporting they often get information via other residents.

Local government and politicians appear neither trustworthy nor a common source of information. Politicians are apparently the lease frequent communicators – a majority of the respondents report that they never get information on tourism development from this group. The information that politicians and bureaucrats pass on is regarded as the least reliable, with, for example, 44 percent feeling that information from politicians is unreliable. There are, however, different opinions on this matter – people who actually get information from this group (about half of the sample) are more positive. This is a general bias. As Figure 6 illustrates, there is a high correlation between frequency and reliability, suggesting that there is a self-selection mechanism working.
Table 8 gives figures for the attitude clusters. The table illustrates the percentage of respondents who receive information from the source "often" (q29) and the percentage that regards it as "very reliable" (q30). The general trend that can be read out of the table is that:

- **Cluster 1 respondents** ("Those who want a regulated development of tourism in the area") receive more information and from a broader range of sources than do respondents in the other clusters – newspapers, the industry, and friends/family are all important. Relative to other clusters, they also tend to evaluate sources as more reliable.
- **Cluster 2 respondents** ("Active people who do not want restrictions") receive by far the most frequent information from friends and family.
- **Cluster 3 respondents** ("The people who want things as they are") have friends/family and the industry as their two most significant sources, but overall appear less interested in information on tourism development than are respondents in the other clusters.

<table>
<thead>
<tr>
<th>Source</th>
<th>Cluster 1 Frequency</th>
<th>Cluster 2 Frequency</th>
<th>Cluster 3 Frequency</th>
<th>Cluster 1 Reliability</th>
<th>Cluster 2 Reliability</th>
<th>Cluster 3 Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspapers</td>
<td>52</td>
<td>25</td>
<td>17</td>
<td>12</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Local government</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>10</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Politicians</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>6</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Tourism industry</td>
<td>48</td>
<td>30</td>
<td>32</td>
<td>33</td>
<td>25</td>
<td>29</td>
</tr>
<tr>
<td>Friends and family</td>
<td>45</td>
<td>48</td>
<td>33</td>
<td>61</td>
<td>49</td>
<td>50</td>
</tr>
<tr>
<td>Other residents</td>
<td>27</td>
<td>23</td>
<td>17</td>
<td>33</td>
<td>20</td>
<td>27</td>
</tr>
</tbody>
</table>

| Notes                         | a q29 (frequency): Chi square: p<.05 | b q30 (reliability): Chi square: p<.05 |

Question 31 asked for opinions on each information source's perspective on tourism, and results are summarised in Table 9. Not surprisingly, the information passed on by the industry itself is viewed as being significantly more positive than that from other sources, with 60 percent regarding it as either somewhat positive or very positive, 27 percent as neutral, and 13 as negative. No differences are found between residents with income from tourism and others. Generally, most sources are regarded as communicating the positive sides of tourism development. The most critical (or balanced) view seems to come from politicians. However, 33 percent still feel that newspapers are mainly positive; only 21 percent feel that newspapers are negative in their presentation of tourism industry matters.

Table 9. The perspective of the tourism information passed
<table>
<thead>
<tr>
<th>Source</th>
<th>Negative</th>
<th>Neutral</th>
<th>Positive</th>
<th>Total</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspapers</td>
<td>16</td>
<td>42</td>
<td>42</td>
<td>100</td>
<td>3.3</td>
</tr>
<tr>
<td>Local government</td>
<td>18</td>
<td>44</td>
<td>38</td>
<td>100</td>
<td>3.3</td>
</tr>
<tr>
<td>Politicians</td>
<td>21</td>
<td>46</td>
<td>33</td>
<td>100</td>
<td>3.2</td>
</tr>
<tr>
<td>Tourism industry</td>
<td>13</td>
<td>27</td>
<td>60</td>
<td>100</td>
<td>3.7</td>
</tr>
<tr>
<td>Friends and family</td>
<td>11</td>
<td>38</td>
<td>51</td>
<td>100</td>
<td>3.6</td>
</tr>
<tr>
<td>Other residents</td>
<td>14</td>
<td>46</td>
<td>40</td>
<td>100</td>
<td>3.4</td>
</tr>
</tbody>
</table>

The last question on resident information acquisition focused on the influence of the different sources. For each source an influence score is calculated that indicates the percentage reporting that they are being influenced by the source. The score is calculated in the following way: If the respondent reports that the source is generally passing on positive (negative) information on tourism development (q31), and he/she is positively (negatively) influenced by it, the score takes the value 1, if not it takes the value 0. Results for the total sample and for each of the attitude segments are reported in Table 10 (see Frequency distribution report for distributions).

Information from friends/family and the industry itself is by far the most influential. Half of the respondents report they are influenced by the information they get from these sources. Referring to Table 9, these sources mainly pass on positive information and thus create a favourable attitude toward tourism development among residents. No differences are found between respondents involved in tourism and those not involved in the industry. The third most influential information is that from other residents. Newspapers, local government and politicians only affect respondents' attitudes to a minor degree. Only small differences are found between the attitude segments.
Table 10. Influence scores

<table>
<thead>
<tr>
<th></th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Cluster 3</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspapers</td>
<td>27</td>
<td>19</td>
<td>26</td>
<td>19</td>
</tr>
<tr>
<td>Local government</td>
<td>22</td>
<td>22</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>Politicians</td>
<td>16</td>
<td>18</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>Tourism industry</td>
<td>65</td>
<td>46</td>
<td>65</td>
<td>49</td>
</tr>
<tr>
<td>Friends and family</td>
<td>60</td>
<td>54</td>
<td>39</td>
<td>49</td>
</tr>
<tr>
<td>Other residents</td>
<td>31</td>
<td>36</td>
<td>26</td>
<td>31</td>
</tr>
</tbody>
</table>

\(^b\) Chi square: p<.10
6. Conclusions

With respect to windpower, most residents are positive under most conditions. It is only when residents would see 10-12 windmills, in a group, from their home that negative responses outweigh positive responses. This support was largely universal within the community, though newer residents were less positive than others.

There is less support for designating the area a national park, with almost half the respondents being negative to the idea and most of these being very negative. There is more variability within the community on this topic than with respect to windmills. Those tending to be more negative toward designation include residents with less than university education, those who have lived in the area for 16 years or longer, those who express strong place attachment to the area and visit it frequently, and those who engage in snowmobiling.

Regarding tourism, there is strong and largely universal support for tourism, with 79% of residents being classified as fairly or very positive. Although those who favour national park designation are somewhat less positive than others, even this group is overwhelmingly positive towards tourism. Four-fifths (80%) of residents would like the number of tourists in the area to grow in the next five years. More residents would prefer growth in skiing (79%) than in snowmobiling (29%).

Friends and family is rated both the most frequent and the most reliable source for information and opinions regarding tourism, with the tourist industry placing second, ahead of other residents, newspapers, local government, and politicians. Not surprisingly, the most positive information is reported as coming from the tourism industry. Politicians are seen as giving the least positive and the most negative information, but even they are seen as generally in favour of tourism. Lastly, the tourism industry and family and friends are seen as having the most effect in terms of changing resident attitudes in the direction of their messages.
References


Erp, F. 1997 Siting Processes for Wind Energy Projects in Germany, Eindhoven University of Technology.


Simon, A. M. 1996. A Summary of Research Conducted into Attitudes to Wind.


Discussion

Introduction

The needs for and problems of planning and management in the Swedish mountain region concerning outdoor recreation and tourism have already been discussed both in the introduction and in each paper separately. The aim here is to bring up the most central questions that the results of the studies have highlighted. Different possible directions for further research will also be discussed. The discussion is organized in accordance with the order of the papers with some general conclusions at the end.

Tourism patterns in the Swedish mountain region - conclusions and need for further research

It is clear that the Swedish mountains are an important part of the Swedish experience and identity. As article I shows, the Swedish mountain region is frequently visited and one of the key areas in the Swedish tourism marketing. With the 23 % Swedish annual visit rate in mind it is clear that the visitors imply social and environmental impacts and vice versa – what happens in the mountains affects many Swedes. At the same time it is important to keep in mind that tourism in the mountains is geographically uneven and the traditional forms of mountain tourism – hiking and cross-country skiing are rather decreasing than growing – the centre of gravity is moving south and towards winter activities, especially downhill skiing. These facts have to be taken into consideration when discussing planning and management in the mountain region as whole.

Research is needed on the socio-economic and cultural aspects of the mountain region and the Swedes, both those that belong to the resident population and others. It is also important to study the group of non-visitors. Although several conclusions may be drawn from the screener study on the tourism patterns in the mountain region, follow-up studies are needed to get a better picture of the development of tourism in the area. Studying different activity groups would give valuable information on their attitudes.

The results of the national screener survey presented in article I show that it is not appropriate to think of the entire mountain region as a tourist destination. At the same time it is clear that tourism is growing in many parts of the region and dependence on tourism will increase in the future. The small number of international visitors to the mountain region today compared with other parts of Sweden could grow in the future, if the experience of the natural environment could be better developed for an international market – research on this is needed.
The need for data on outdoor recreation and tourism

General data on nature tourism and outdoor recreation

The national screener study (article I) shows the importance of general data on tourism and different activities. This kind of data is necessary for understanding tourism and its development, differences between different parts of the mountains from a visitor point of view and for national and regional planning of for example infrastructure and nature conservation. Data of this kind also facilitates understanding the meaning of the area for Swedes as an arena for different activities and leisure, something that is valuable for example for tourism marketing on national and regional level. If tourism is supposed to become an important factor in the economic development in the mountains, it is valuable for decision makers and entrepreneurs to find out the potentials and strengths in the area from a visitor point of view.

Data on tourism and outdoor recreation at local and regional levels

At the same time as the importance of general data is evident, site and activity specific studies are needed too. There is a lack of systematically collected data on tourism and outdoor recreation at local and regional levels (see e.g. Alexandersson 2000, Emmelin 1997 and Heberlein et al. 2002). This makes planning for tourism and recreation difficult. Settlement of conflicts with other forms of land-use also becomes difficult. The lack of information influences perceptions of the existing situation and its problems and opportunities. As shown in article II it also hampers the establishing of a general understanding among actors in the planning process. Data on outdoor recreation is needed in many phases of the planning process: environmental impact assessment, spatial planning of and for utilization and management of the area and the implementation of the plan. One important difference lies in whether the data is supposed to show the state of things ex ante (impact assessment and planning) or ex post (management that can imply supervision, follow-up or revisions of a plan).

It would have been especially interesting to see in the case of Södra Jämtlandsfjällen (article II) what kind of role our data would have got in the planning process; to what extent it would have been used, what kind of legitimacy it would have had with different actors and how it would have affected the planning process. This was unfortunately not possible because the planning process was stopped at quite early stages and an alternative with no extensive changes compared to management and use of the area before was chosen. The importance of the data is however pointed out in the planning documents (Åre kommun 2002), where it is stated that because the planning situation right now does not allow any bigger changes, the data from the study has its greatest value as general information and in the future planning of the area. This means that thoughts of ROS-type of planning based on the knowledge of visitors’ attitudes and use of the different parts of the area will be a relevant question only in the future, if
the situation changes. Conclusions are in other words based on the experiences during the planning process and the results compared with the objectives that were set in the beginning of the study. The experiences of the methods used are summarized here in the following paragraphs, see article II for a more detailed discussion of different methods.

The theoretical framework of "ecostrategies" was used in article II to understand not only the principles but also the degree of success or limitation of the attempt to produce a common basis of problem description and perception. Some concrete examples of what type of data to be collected and what about the legitimacy of different sources of collected data could be noted:

- The strengthened interest of collecting data concerning disturbances between tourists. The involvement of questions asked to the tourists with regard to their willingness to accept the change of routes due to the need of limiting the disturbances was possible to note, plus the questions with regard to their tendencies and interest to take routes outside the organized trails according to the right of public access.
- The results showed a high willingness to accept a change of routes and a very limited tendency to walk outside the trails. – That of course does not exclude that the right of public access could be seen as both an important aspect of coming to the area and, when being there, as an important possibility even though not so much used.
- It was also possible to note, with regard to the legitimacy of different sources of collected data, the importance of involving pilots with good local knowledge and familiarity with reindeer herding when carrying out the tent counting from air.
- As an example of the "shift" and the linkages between landscape perspective and collecting of data in the study in Södra Jämtlandsfjällen the importance of in-depth studies of non participation was noted. It is reasonable to believe that the results of a "general" method to a larger extent could be questioned by persons and groups with good local knowledge (compared with a more general audience in e.g. central authorities often familiar with the methods used).
- It is also reasonable to believe that arguments like "internationally well established methods" could not (and should not!) be taken as a general key to local acceptance of the results.

As a consequence of a shift in landscape and planning perspective to some extent new themes and new groups have to be taken into consideration with regard to what should be investigated. A planning process more in line with communication and bottom-up must involve the fact that also not previously known themes and groups could be manifested as an outcome of the investigation. The planning process therefore in such a case must include openness for what values (attitudes, activities, groups) that has to be taken into consideration with regard to the need of knowledge and legitimacy.
These general arguments were very well illustrated in the case of the Södra Jämtlandsfjällen (article II), as the close linkage between the general planning process and the proposed national park ended up in a situation there some groups in the region were so strongly against the park proposal that it was put on the shelf for an indefinite period.

**Some reflections on methods for collecting information on recreation and tourism**

As shown in article II, self registration combined with satisfactory studies on non participation can give a relatively good synoptic picture of the use of the area. This kind of base-line data for planning and EIA, i.e. data that describes present situation roughly was possible to produce. At the same time it is obvious that the non participation varies too much geographically and between different points of time for self registration alone to be used for studying frequencies and patterns of use. To make the method reliable enough alone the need for studies on non participation would be too big to make the method useful. In the case of Södra Jämtlandsfjällen the extensive studies on non participation were made possible with labour paid by the municipalities. That is seldom the case.

When self registration is combined with other methods it can have an important function – to make it possible to collect name and address data and to put a small number of questions to the visitors. Names and addresses make it also possible to continue with e.g. a questionnaire study.

Flight observations carried out as a part of the study in Södra Jämtlandsfjällen (article II) proved to be a good method of studying the patterns of camping. They were also important for conflict analysis and studying divergences. Although the method was expensive, it may be judged as important for both testing methods and getting knowledge of patterns of use in the area. There are however cheaper methods to choose among and flight observations should be carefully discussed and maybe used only in the areas where the biggest conflicts exist.

In situations where conflicts exist, it is important that the picture of the present situation is well established and legitimate. This means that both methods and the actors participating in the study have to be experienced as legitimate by all parties taking part in the planning process. The inventory of tents in Södra Jämtlandsfjällen is a good example of problems connected to the legitimacy of methods. Patterns of camping were one of the most sensitive questions in the process and it turned out to be important that the inventories were carried out by persons and parties that were experienced as both neutral and reliable.

Differences between visitors’ intentions and their patterns of behaviour may be an interesting question to study. Comparison of visitors’ answers in the beginning of
their visit and their answers afterwards is one way of studying this. It is important to be able to rely on and correct the results in the future when most likely the use of area is studied only at one point of time.

The calibration of the indirect methods of estimating the total number of visitors may require such large resources that their usefulness may be questioned. For example the registration of cars does not make it possible to estimate the total number of visitors without being combined with personal observations. The indirect methods risk missing factors that make it possible to get indications of possible tendencies in the use of an area. At the same time data such as accommodation statistics or number of vehicles is relatively easy to collect and may be used as a base when planning the monitoring of an area. When correlations between indirect measures and the actual amount and patterns of use are known, the indirect measures may be useful in following the use of the area. Registration of cars also gives valuable information for authorities responsible for the car parks – for example for planning new car parks and for discussions about fees for parking.

As shown in article II, accommodation statistics may give a good complementary picture of the patterns of use inside the area. On the other hand accommodation statistics do not give a satisfactory picture of the patterns of use as a whole. Accommodation statistics as a sole data source for planning have to be regarded as clearly unsatisfactory.

Observations carried out by people working in the area may yield valuable information, especially if there are opportunities for more organised observations. They may at the same time be problematic; at least the study in Södra Jämtlandsfjällen (article II) showed that getting people working in the area to make observations may be difficult. It is also important that the observations can be carried out in addition to other assignments in the area, since having observers for just tent observations is not likely to be cost-effective. Using the expertise of people working in or with the area is in any case essential.

It is important to note that every study on patterns of use at one point of time or over a certain period of time gives only limited information on possibilities of development of an area. It is for example dangerous to make predictions of new visitor groups or marketing areas based on data from only one area.

**Differences between different visitors**

There are big differences between different visitors in the mountains. Their needs and interest in different nature experiences, their tolerance towards crowding and contacts with other users vary to a great extent. It is important for planning and management to find out which qualities users look for and appreciate and to have a clear picture of the variation between different users. As shown and discussed in article II it is clear that without an extensive questionnaire it is impossible to tell anything about visitors’
Variation between different user groups was evident in the study of the visitors in Södra Jämtlandsfjällen (article II). Although a majority of the visitors were clearly seeking comfortable and safe experiences and were both happy with and using the existing infrastructure, it was possible to find visitor segments that were seeking different experiences and had different attitudes to the management of the area. The area of Södra Jämtlandsfjällen is clearly of national interest and visitors’ attitudes together with the residents’ are important for planning the management of the area. Knowing that there is a large variation within both groups regarding the future management of the area, the importance of communicative planning and offering a spectrum of recreation opportunities is clear.

**Residents’ attitudes and local knowledge**

It is important that people living in the area are involved in planning and that local conditions and cultures are paid attention to. The study of the residents in Södra Jämtlandsfjällen (article III) showed that there is strong support for tourism among the people living in the area, irrespective of whether the informants had a direct income from tourism or not. At the same time it was possible to find three groups among the residents whose attitudes varied significantly: i) those who want a regulated development of tourism in the area, ii) active people who do not want restrictions and iii) the people who want things to be as they are. These differences are important to notice when planning the use and management of the area. Finding a balance between economic development, nature protection and local cultural ownership may be difficult and the potentials of eco-tourism in the mountain region should be studied in the future.

**A final word**

It is obvious that studies of outdoor recreation and tourism are needed. Information is needed on several levels, both concerning the extent of studies – from national screener studies (see article I) to site-specific studies (see article II) and studies of local attitudes (see article III) and the target group – from national authorities to local decision-makers and managers. Information is needed in different sectors too – planning, management, tourism industry, nature conservation, etc.

Effective and reliable methods of studying tourism and outdoor recreation are needed – methods of both describing the amount and type of use and the attitudes of the users. The three studies forming this thesis give valuable knowledge of several methods.
and are good examples of studies on different levels and among different user groups – examples of building a knowledge base that is crucial for planning of this kind of area in the future. Routines for monitoring the use of the mountain areas have to be developed – studying reactions to plans and management is important. Opportunities for carrying out planning and management based on experiences, i.e. ROS planning, should also be studied more.

A general conclusion is that there are no good shortcuts to useful knowledge of outdoor recreation and tourism for planning as a whole, for management or for EIA. The demand for possibility for predictions is far too big to make indirect data useful alone. Most of the methods are both time and resource consuming; there are however big differences between them.

The responsibility for the information collection and service is important to clarify. Cooperation between different authorities and over the administrative boundaries is necessary to be able to handle the problems in an area of several interests. The role of the planning as an arena for negotiations between different interest groups sets new requirements for the planning process and for the existing data. Because planning in the Swedish mountains is no longer planning by the experts for the experts, it is important to make plans simple and possible to understand. Planning in the Swedish mountains is today to a great extent based on data on nature – a better knowledge of outdoor recreation, tourism and visitors’ attitudes and experiences is needed.
References


Boverket. 1996. Boken om översiktsplan, Del II. Översiktsplanen i lagstiftningen.


Appendices

1. Outline of the telephone interview
2. Registration card Södra Jämtlandsfjällen
3. Questionnaire, visitors in Södra Jämtlandsfjällen
4. Questionnaire, residents
5. Signs used on the registration boxes
6. Signs in the registration boxes
7. Map showing the places of the registration boxes
8. The flight routes
9. Share of visitors on different trail heads
10. Frequency of hikers along the trails
11. Frequency of tents
12. Table showing the answers to the question about attitudes towards different management actions
13. Tables (test results) residents
Hej, mitt namn är XX och jag ringer från Åre Marknadsfakta på uppdrag av Europeiska Turismforskningsinstitutet, ETOUR i Östersund. Vi håller just nu på med en undersökning kring svensk fjällturism och resandet i norra Sverige. Jag söker en person i hushållet som är mellan 15 och 70 år och som senast fyllde år.


Om respondenten inte vet vad du menar med norra Sveriges inland eller fjällområden, talas då om att det ungefär omfattar följande landskap: Lappland, Jämtland, Härjedalen och Dalarna väster om Siljan och väg 45.

Om svaret på fråga 1a är JA, gå vidare till fråga 9.

1b. Då undrar jag om du gjorde någon resa med minst en övernattning i norra Sveriges inland eller fjällområden under tidsperioden från januari –98 till augusti –98


Om svaret på fråga 1b är JA, gå vidare till fråga 9.

1c. Då undrar jag om du gjorde någon resa med minst en övernattning i norra Sveriges inland eller fjällområden under åren –95 till –97?


Om svaret på fråga 1c är JA, gå vidare till fråga 9.

ICKE BESÖKARE (OM NEJ PÅ FRÅGA 1).
2. Jag kommer nu att räkna upp ett antal aktiviteter. Jag undrar om du utövat några av dessa på någon annan resa, i Sverige eller utomlands, som inkluderar minst en övernattning under åren 1995 t.o.m augusti 1999?

Utförsåkning
(omfattar slalom, telemark, snowboard etc)

Endagstur på skidor
Skidtur med övernattning
Endags vandringstur
Vandringstur med övernattning
Snöskoteråkning
Sportfiske
Jakt
Kanotpaddling/forsränning
Cykelåkning/mountainbike
Bär/svamplockning
Naturstudier
(t.ex. fågelskådning eller växtstudier)
Naturfotografering

Bakgrundsfrågor

3. Vilket år är du född?__________________________

4. Är du….
   1□ Kvinna
   2□ Man

5. Vilket är ditt civilstånd? Är du………?  
   Läs upp!
   1□ Gift/sambo
   2□ Ensamstående
   3□ Bor hos föräldrar
   4□ Ej svar

6. Vilken skolutbildning har du?  
   Högst avslutat!
   1□ Ej avslutad grundskola
   2□ Grundskola/folkskola
   3□ Gymnasieutbildning
   4□ Folkhögskola
   5□ Universitet/högskola (40-120p)
   6□ Universitet/högskola (mer än 120p)
   7□ Ej svar
7. Är du medlem i någon turist- eller friluftsorganisation?
   * Ex Svenska Turistföreningen STF, Friluftsfrämjandet, Scoutrörelsen!
   1□ Ja
   2□ Nej
   3□ Vet ej

   Om Ja på fråga 7.

7b. Vilken/vilka turist- eller friluftsorganisation är du medlem i?
   * Flersvar!
   f7b_1 □ STF
   f7b_2 □ Friluftsfrämjandet
   f7b_3 □ Scoutrörelsen
   f7b_4 □ Annan, vilken/vilka______________________________
   f7b_5 □ Vet ej
   f7b_an □ Öppet svar, annan org.__________________________

8. Till sist undrar jag om jag kan få ditt namn och din adress för att senare i höst kunna skicka ut en postenkät till några av er som vi intervjuat.

   Om IP undrar vad postenkäten gäller: Den kommer också att handla om resor i norra Sverige.

   Varför postenkät: Frågorna är lättare att besvara i en postenkät.
   1□ Vill ej delta
   2□ Namn och adress

   f8_namn □ Öppet svar, namn och adress__________________________

   Tack för hjälpen!
BESÖKARE (FRÅGA 1 BESVARAT MED JA)

9. Om du gjort mer än en resa till norra Sveriges inland eller fjällområden under denna period svara då för det besök som varade längst.
   Ange de orter och platser du huvudsakligen besökte under resan:

   f9_1 Ort/plats 1 ________________
   f9_2
   1 □ Inga flera orter/platser
   2 □ Ort/plats 2

   f9_2ort Öppet svar, ort________

   f9_3
   1 □ Inga flera orter/platser
   2 □ Ort/plats

   f9_3ort Öppet svar, ort________

   f9_4 som ovan
   f9_5 som ovan
   f9_6 som ovan
   f9_7 som ovan
   f9_8 som ovan

10. Under vilken månad gjordes resan?

   1 □ Jan 7 □ Juli
   2 □ Feb 8 □ Aug
   3 □ Mars 9 □ Sep
   4 □ Apr 91 □ Okt
   5 □ Maj 92 □ Nov
   6 □ Juni 93 □ Dec
   94 □ Vet ej

11. Vilket var det huvudsakliga syftet med resan? Var det.........?

   Läs upp!

   1 □ Besöka släkt och vänner
   2 □ Fritid, rekreation och semester
   3 □ Affärer eller uppdrag (arbetsresor)
   4 □ Vet ej
12. Ange antal nätter du övernattade i:

- **f12_1** Släkt eller nära väns permanentbostad: ___________________ nätter
- **f12_2** Eget, familjens eller nära väns fritidshus: ___________________ nätter
- **f12_3** Hyrd stuga, hotell eller pensionat: ___________________ nätter
- **f12_4** Husvagn eller tält: ___________________ nätter

*Hyrd stuga inkluderar även övernattningar i fjällstugor*

13. Jag kommer nu att räkna upp ett antal aktiviteter. Ange vilken eller vilka av dessa du utövade under resan:

<table>
<thead>
<tr>
<th>Utforsäkning</th>
<th>f13a_1</th>
<th>f13a_2</th>
<th>f13a_3</th>
</tr>
</thead>
<tbody>
<tr>
<td>(omfattar slalom, telemark, snowboard etc)</td>
<td>Ja</td>
<td>Nej</td>
<td>VE</td>
</tr>
<tr>
<td>Endagstur på skidor</td>
<td>f13b_1</td>
<td>f13b_2</td>
<td>f13b_3</td>
</tr>
<tr>
<td>Skidtur med övernattning</td>
<td>f13c_1</td>
<td>f13c_2</td>
<td>f13c_3</td>
</tr>
<tr>
<td>Endags vandringstur</td>
<td>f13d_1</td>
<td>f13d_2</td>
<td>f13d_3</td>
</tr>
<tr>
<td>Vandringstur med övernattning</td>
<td>f13e_1</td>
<td>f13e_2</td>
<td>f13e_3</td>
</tr>
<tr>
<td>Snöskoteräkning</td>
<td>f13f_1</td>
<td>f13f_2</td>
<td>f13f_3</td>
</tr>
<tr>
<td>Sportfiske</td>
<td>f13g_1</td>
<td>f13g_2</td>
<td>f13g_3</td>
</tr>
<tr>
<td>Jakt</td>
<td>f13h_1</td>
<td>f13h_2</td>
<td>f13h_3</td>
</tr>
<tr>
<td>Kanotpaddling/forsränning</td>
<td>f13i_1</td>
<td>f13i_2</td>
<td>f13i_3</td>
</tr>
<tr>
<td>Cykeläkning/mountainbike</td>
<td>f13j_1</td>
<td>f13j_2</td>
<td>f13j_3</td>
</tr>
<tr>
<td>Bär/svampplöckning</td>
<td>f13k_1</td>
<td>f13k_2</td>
<td>f13k_3</td>
</tr>
<tr>
<td>Naturstudier</td>
<td>f13l_1</td>
<td>f13l_2</td>
<td>f13l_3</td>
</tr>
<tr>
<td>(t. ex. fågelskådning eller växtstudier)</td>
<td>f13m_1</td>
<td>f13m_2</td>
<td>f13m_3</td>
</tr>
<tr>
<td>Naturfotografering</td>
<td>f13n_1</td>
<td>f13n_2</td>
<td>f13n_3</td>
</tr>
</tbody>
</table>

**f13_an** Öppet svar, annan aktivitet_____________________________________


14. Har du under perioden -95 t o m augusti –99 besökt Laponia?

<table>
<thead>
<tr>
<th></th>
<th>Ja</th>
<th>Nej</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
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</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Större tätorter = fler än 5000 invånare.**

15. Har du under perioden 1995-1999 besökt något av följande fjällområden?

- **Norrbottensfjällen**
  - Ja
  - Nej
  - Vet ej

- **Västerbottensfjällen**
  - Ja
  - Nej
  - Vet ej

- **Jämtland/Härjedalsfjällen**
  - Ja
  - Nej
  - Vet ej

- **Dalafjällen**
  - Ja
  - Nej
  - Vet ej

**Bakgrundsfrågor**

16. Vilket år är du född?

17. År du…..

1. Kvinna
2. Man

18. Vilket är ditt civilstånd? Är du………?

   *Läs upp!*

1. Gift/sambo
2. Ensamstående
3. Bor hos föräldrar
4. Ej svar

19. Vilken skolutbildning har du?

   *Högst avslutat!*

1. Ej avslutat utbildning
2. Grundskola/folkskola
3. Gymnasieutbildning
4. Folkhögskola
5. Universitet/högskola (40-120 p)
6. Universitet/högskola (mer än 120 p)
7. Ej svar

20. Är du medlem i någon turist- eller friluftsorganisation?

   *Tex Svenska Turistföreningen STF, Friluftsfrämjandet, Scoutrörelsen!*

1. Ja
2. Nej
3. Vet ej
Om Ja på fråga 20.

20b. Vilken/vilka turist- eller friluftsorganisation är du medlem i?

_Flersvar_

f20b_1 □ STF
f20b_2 □ Friluftsfrämjandet
f20b_3 □ Scoutrörelsen
f20b_4 □ Annan, vilken/vilka_______________________
f20b_5 □ Vet ej
f20b_an □ Öppet svar, annan org_______________________

21 Till sist undrar jag om jag kan få ditt namn och din adress för att senare i höst kunna skicka ut en postenkät till några av er som vi intervjuat.

Om IP undrar vad postenkäten gäller: Den kommer också att handla om resor i norra Sverige.

_Varför postenkät: Frågorna är lättare att besvara i en postenkät._

1 □ Vill ej delta
2 □ Namn och adress

f21_namn □ Öppet svar, namn och adress_______________________

Tack för hjälpen!
Appendix 2
Registreringskort/Registration card/ Registrierungskarte

Ett kort/person. Om ni är flera i gruppen ber vi att alla fyller i ett kort. Studien omfattar området i kartan i registreringsboxen./One card per person please. The study area is shown on the map./Eine Karte pro Person. Die Untersuchung betrifft das auf der Karte (im Kasten) gezeigte Gebiet.

Ifyllt/Date/Datum

Dag/Day/Tag

Månad/Month/Monat

Namn/Name_______________________________________________

Adress/Address/Strasse u. Hausnr.________________________________

Postnummer/Postal code/Postleitzahl_____________________________

Ort/Town/Wohnort__________________________________________

Country/Land_______________________________________________

Födelseår/Date of birth/Geburtsdatum__________________________

1. När kom du till området?/ When did you arrive in the area?/Wann sind Sie in diesem Gebiet eingetroffen?

☐ I dag/Today/Heute

☐ Tidigare, /Earlier, /Bereits früher - Vilken datum?/Date/Datum_______

2. När räknar du med att lämna området?/When do you plan to leave the area?/Wann werden Sie voraussichtlich dieses Gebiet wieder verlassen?

☐ I dag/Today/Heute

☐ Senare/Later/Später - Vilken datum?/Date/Datum________

3. Vad är huvudändamålet med turen i området?/What is the main purpose of your trip?/Was ist der Hauptgrund für Ihre Reise in dieses Gebiet?

☐ Vandring (flerdagstur)/Walking-tour, more than one day/Mehrtägige Wanderung

☐ Vandring (dagstur)/Day trip/Eintägige Wanderung

☐ Bärplockning/Berry picking/Beeren pflücken

☐ Kanotpaddling/Canoeing/Paddeln

☐ Fiske/Fishing/Angeln

☐ Jakt/Hunting/Jagd

☐ Annat, nämligen/Other activities

Andere Aktivitäten:

________________________________

VÄND KORTET!/TURN OVER/BITTE WENDEN
4. Deltar du i en organiserad tur?/Are you participating in an organized tour?/Nehmen sie an einer organisierten Tour teil?

- Nej/No/Nein
- Ja/Yes/Ja
- Vem organiserar turen?/Who is organising the tour/? Wer organisiert diese Tour? _________________________________

5. Har du varit på flerdagsturer sommartid i området tidigare?/Have you been on multiple-day trips (in the summer) before in the area?/Haben Sie bereits früher in diesem Gebiet im Sommer mehrtägige Wanderungen unternommen?

- Nej, aldrig/No, never/Nein, niemals
- En gång/Once/Einmal
- 2-5 gånger/2-5 times/2-5 Mal
- Mer än 5 gånger/more than 5 times/Mehr als 5 Mal

6. Har du hund med dig?/Do you have a dog with you?/Haben Sie einen Hund mit?

- Nej/No/Nein
- Ja/Yes/Ja

7. Övernattningsform/Will you use/ Wo übernachten Sie?

- tält/tent/Zelt
- fjällstugor/mountain lodges/Berghütten
- fjällstationer/mountain stations/Bergstationen
- annat, nämligen/Other/Anderes: _________________________________

8. Tänker du gå en eller flera dagsetapper utanför markerade leder?/Are you going to walk off the marked trails for most of a day or more ?/Beabsichtigen Sie eine oder mehrere Tagesetappen abseits markierter Wege zu wandern?

- Nej/No/Nein
- Ja/Yes/Ja

Tack för hjälpen!/Thank you for your help! /Vielen Dank für Ihre Mithilfe!
Appendix 3

Södra Jämtlandsfjällen -

vad tycker du?

[Image of a lake with mountains in the background]
Generellt om Ditt besök till Södra Jämtlandsfjällen


1. Hur färdades Du till Södra Jämtlandsfjällen?
Kryssa i ett eller flera alternativ.

☐ Bil
☐ Hyrbil
☐ Tåg
☐ Annat, nämligen___________
☐ Buss
☐ Flyg
☐ Flygtaxi

2. Var Du ensam eller tillsammans med andra?

☐ Jag var ensam.
☐ Vi var flera, nämligen______personer, varav ______personer under 18 år.

3. Om Du var med i en grupp, vilken slags grupp var det? Flera alternativ kan anges.

☐ Vänner
☐ Familj
☐ Annat, nämligen______________
☐ Kommersiellt organiserad tur
☐ Tur organiserad av förening el. dyl.

4. Under ditt besök i Södra Jämtlandsfjällen, hur mycket har Du spenderat på följande?

☐ Vägavgift ____________kr
☐ Mat och dryck ____________kr
☐ Fiskekort ____________kr
☐ Tur med färdledare ____________kr
☐ Souvenirer ____________kr
☐ Boende ____________kr
☐ Annat___________________ ____________kr

5. Kommer Du att komma tillbaka till området?

☐ Nej
☐ Ja
6. Kommer Du att rekommendera området till andra?

- Nej
- Ja


<table>
<thead>
<tr>
<th>Aktivitet</th>
<th>Mycket viktigt</th>
<th>Viktigt</th>
<th>Neutral</th>
<th>Mindre viktigt</th>
<th>Inte alls viktigt</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td>Själva vandring (med övernattning)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Själva vandring (dagsturer utan övernattning)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Tältande</td>
<td></td>
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</tr>
<tr>
<td>Naturfotografering</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Naturstudier (flora &amp; fauna)</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sportfiske</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Bär/svampplockning</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jakt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountainbike</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kanotpaddling/forsränning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speciella aktiviteter (klättring etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annat, nämligen__________________________________</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Några frågor om rutt och boende

Vi är tacksamma om Du fyller i detta så fullständigt som möjligt, dvs. får med alla sträckor som Du vandrat, stugor och fjällstationer Du övernattat i av de som räknas upp. Efter fråga 16 har vi bifogat en karta som ett stöd till minnet.

8. Har Du vandrat hela eller större delen av någon av följande sträckor/leder?

☐ Vålådalen – Vålåstugan         ☐ Vålådalen - Lunndörrstugorna
☐ Vålådalen – Stensdalsstugorna ☐ Anarisstugan - Lunndörrstugorna
☐ Vallbo – Lunndörrstugorna     ☐ Vallbo - Anarisstugan
☐ Lunndörrstugorna - Vålåstugan ☐ Tossåsen - Lunndörrstugorna
☐ Vålåstugan - Helags           ☐ Kläppen - Helags
☐ Fältjägaren - Helags          ☐ Ljungris - Vålåstugan
☐ Helags – Sylarna              ☐ Helags - Gåsen
☐ Helags – Nedalshyttan         ☐ Gåsen - Vålåstugan
☐ Gåsen – Sylarna               ☐ Sylarna - Nedalshyttan
☐ Sylarna – Storerikvollen      ☐ Sylarna - Blåhammarens
☐ Blåhammarens - Storerikvollen ☐ Storvallen - Blåhammarens
☐ Rundhögen - Blåhammarens     ☐ Rundhögen - Storulvån
☐ Blåhammarens - Storulvån      ☐ Enafors - Storulvån
☐ Enafors - Blåhammarens       ☐ Storulvån - Sylarna
☐ Storulvån – Gåsen             ☐ Gåsen - Stensdalsstugorna
☐ Stensdalsstugorna - Vålåstugan

9. Gick Du över norska gränsen under Din tur?

☐ Nej              ☐ Ja

10. Övernattade Du i någon av följande fjällstationer/-stugor?

☐ Blåhammarens fjällstation     ☐ Storulvåns fjällstation
☐ Sylarnas fjällstation        ☐ Vålådalens turiststation
☐ Anarisstugan                 ☐ Lunndörrstugorna
☐ Vålåstugan                   ☐ Stensdalen
☐ Helags                       ☐ Gåsen
☐ Fältjägaren                  ☐ Storerikvollen

☐ Nedalshyttan
11. Vilka andra platser besökte Du under turen?

☐ Kyrkstenen  ☐ Tjällingen
☐ Issjödalen  ☐ Pyramiderna
☐ Karoliner –monumentet  ☐ Nulltjärnarna
☐ Syltoppen  ☐ Vålåfallet
☐ Toppen av Helags  ☐ Blanktjärnarna
☐ Bunnerstjörna  ☐ Handölsforsen
☐ Ottfjället  ☐ Skårsdalen
☐ Lunndörren  ☐ Storådörren
☐ Middagsvalen
☐ Annat _________________________________

12. Om Du gick på tälttur sommaren 1999, hur viktiga var följande skäl för att använda tält i stället för att ligga i turistföreningsstugor eller fjällstationer?

Mycket viktigt  Viktigt  Neutral  Mindre viktigt  Inte alls viktigt

• Jag kan besöka områden där det inte finns andra övernattningsmöjligheter. ☐ ☐ ☐ ☐ ☐
• Det ger större frihet. ☐ ☐ ☐ ☐ ☐
• Jag slipper trängseln i stugorna. ☐ ☐ ☐ ☐ ☐
• Själva tältandet är en viktig del av upplevelsen. ☐ ☐ ☐ ☐ ☐
• Billigt ☐ ☐ ☐ ☐ ☐

13. Gick Du utanför de markerade lederna?

☐ Nej (gå till fråga 15)  ☐ Ja (gå till fråga 14)


15. Varför gick Du inte utanför de markerade lederna?

☐ Av säkerhetsskäl
☐ Bekvämt att följa lederna
☐ Annat _________________________________

16.Om Du tältade under Din tur, vilka platser övernattade Du på? Markera på kartan på nästa sida med ett kryss (X).
17. Vi ber Dig svara på följande frågor:

- Hur mycket skräp såg Du längs lederna?
  - Inget
  - Nästan inget
  - Något
  - Ganska mycket
  - Mycket

- Hur mycket skräp såg Du vid stugor och lägerplatser?
  - Inget
  - Nästan inget
  - Något
  - Ganska mycket
  - Mycket

- Hur mycket skräp såg Du längs stränder och vattendrag?
  - Inget
  - Nästan inget
  - Något
  - Ganska mycket
  - Mycket

18. Var det mer eller mindre skräp än Du förväntat Dig?

- Mycket mindre
- Något mindre
- Ungefär som väntat
- Något mer
- Mycket mer

19. Då Du såg skräp under turen vad tyckte Du om det?

- Störde inte
- Störde nästan inte
- Störde lite
- Störde ganska mycket
- Störde mycket
20. Alla stigar, synliga lägerplatser m.m. uppstår på grund av slitage. Med följande frågor vill vi få reda på om Du anser att slitage har blivit för stort. Om Du på de följande tre frågorna väljer alternativet ”inget”, betyder det att Du anser att stigar, lägerplatser och tillståndet vid stränder och vattendrag var helt intakta.

A. Hur mycket slitage upplevde Du att det var längs med lederna?

<table>
<thead>
<tr>
<th>Inget</th>
<th>Nästan inget</th>
<th>Något</th>
<th>Ganska mycket</th>
<th>Mycket</th>
</tr>
</thead>
</table>

B. Hur mycket slitage såg Du vid lägerplatser och rastplatser?

<table>
<thead>
<tr>
<th>Inget</th>
<th>Nästan inget</th>
<th>Något</th>
<th>Ganska mycket</th>
<th>Mycket</th>
</tr>
</thead>
</table>

C. Hur mycket slitage såg Du längs med stränder och vattendrag?

<table>
<thead>
<tr>
<th>Inget</th>
<th>Nästan inget</th>
<th>Något</th>
<th>Ganska mycket</th>
<th>Mycket</th>
</tr>
</thead>
</table>

21. Vad det mer eller mindre slitage än Du förväntat Dig?

<table>
<thead>
<tr>
<th>Mycket mindre</th>
<th>Nägot mindre</th>
<th>Ungefär som väntat</th>
<th>Något mer</th>
<th>Mycket mer</th>
</tr>
</thead>
</table>

22. Om Du upplevde slitage under turen vad tyckte Du om detta?

<table>
<thead>
<tr>
<th>Störde inte</th>
<th>Störde nästan inte</th>
<th>Störde lite</th>
<th>Störde ganska mycket</th>
<th>Störde mycket</th>
</tr>
</thead>
</table>

23. Förutom vandring bedrivs exempelvis andra aktiviteter såsom cykling och ridning i fjällmiljö. Hur upplever Du:

<table>
<thead>
<tr>
<th>Mycket negativt</th>
<th>Negativt</th>
<th>Saknar betydelse</th>
<th>Positivt</th>
<th>Mycket positivt</th>
<th>Vet ej</th>
</tr>
</thead>
</table>

- Cykling i fjällmiljö?

- Ridning i fjällmiljö?


- Vandring
- Cykling
- Ridning
- Ingen åsikt
- Annat ______________________
### Buller i Södra Jämtlandsfjällen

Med buller menar vi ljud som Du anser inte naturligt hör hemma i Södra Jämtlandsfjällen.

25. Hur mycket buller hörde Du under turen?  

<table>
<thead>
<tr>
<th></th>
<th>Inget</th>
<th>Nästan inget</th>
<th>Något</th>
<th>Ganska mycket</th>
<th>Mycket</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tbody>
</table>

26. Var det mer eller mindre buller än Du förväntat Dig?  

<table>
<thead>
<tr>
<th></th>
<th>Mycket mindre</th>
<th>Något mindre</th>
<th>Ungefär som väntat</th>
<th>Något mer</th>
<th>Mycket mer</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

27. Om Du upplevde buller vad tyckte Du om detta?  

<table>
<thead>
<tr>
<th></th>
<th>Störde inte</th>
<th>Störde nästan inte</th>
<th>Störde lite</th>
<th>Störde ganska mycket</th>
<th>Störde mycket</th>
</tr>
</thead>
<tbody>
<tr>
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<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
</tbody>
</table>

28. Om Du hörde buller, varifrån kom det?  

- ☐ Flyg/helikopter  
- ☐ Terrängfordon  
- ☐ Annat, nämligen
Andra brukare i Södra Jämtlandsfjällen

De följande frågorna besvaras av Dig som mötte andra människor under turen.

29. Hur många människor mötte Du under turen?

- □ 1-5 personer
- □ 5-10 personer
- □ 10-20 personer
- □ 20-50 personer
- □ >50 personer

30. Mötte Du fler eller färre människor än Du hade förväntat Dig?

- □ Mycket färre
- □ Färre
- □ Ungefär som väntat
- □ Flera
- □ Många färre

31. Vad tyckte Du om att möta andra människor under turen?

- □ Mycket negativt
- □ Negativt
- □ Saknar betydelse
- □ Positivt
- □ Mycket positivt

Följande fråga besvaras av Dig som gick på långtur med övernattning.

32. Under Din långtur, blev Du då störd av andra människor?

A. Under turen?

- □ Nej
- □ Ja

Om ja, varför? ____________________________________________

B. Vid övernattningsplatserna?

- □ Nej
- □ Ja

Om ja, varför? ____________________________________________

C. Var det några speciella grupper som störde Dig?

- □ Nej
- □ Ja

Om ja, vem/hur? _________________________________________
## 33. Vad anser Du om kvaliteten på:

<table>
<thead>
<tr>
<th></th>
<th>Mycket dålig</th>
<th>Dålig</th>
<th>Neutral</th>
<th>Bra</th>
<th>Mycket bra</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turistföreningsstugor</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
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<td>☐</td>
</tr>
<tr>
<td>Avfallshantering</td>
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<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Markerade leder</td>
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<tr>
<td>Spångning</td>
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<tr>
<td>Information:</td>
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<td></td>
<td></td>
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<tr>
<td>- skyltning</td>
<td>☐</td>
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<td>☐</td>
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<tr>
<td>- foldrar/tryckt information</td>
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<td>☐</td>
<td>☐</td>
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<tr>
<td>- människor att fråga</td>
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<td>☐</td>
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<td>☐</td>
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<td>☐</td>
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</tbody>
</table>

## 34. Anser Du att det var för lite, lagom eller för mycket av:

<table>
<thead>
<tr>
<th></th>
<th>Alldeles för lite</th>
<th>För lite</th>
<th>Neutral</th>
<th>För mycket</th>
<th>Alldeles för mycket</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turistföreningsstugor</td>
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<td>☐</td>
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<tr>
<td>Avfallshantering</td>
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<tr>
<td>Markerade leder</td>
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<td>Spångning</td>
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<tr>
<td>Broar</td>
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<td>Information:</td>
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<tr>
<td>- skyltning</td>
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<tr>
<td>- foldrar/tryckt information</td>
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<tr>
<td>- människor att fråga</td>
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</tr>
</tbody>
</table>
Besök till Södra Jämtlandsfjällen under vintersäsongen

Om Du besökt Södra Jämtlandsfjällen under vintersäsongen ber vi dig svara på några frågor om dina upplevelser och åsikter. Har Du inte besökt Södra Jämtlandsfjällen under vintersäsong, kan Du gå till fråga 42.

35. När besökte Du Södra Jämtlandsfjällen senast under vintersäsongen?

År:____


- □ Dagsturer på skidor från fjällstation
- □ Flerdagstur på skidor
- □ Skotertur- dagstur
- □ Skotersafari med övernattning
- □ Tolkning efter vessla eller skoter in området, dagstur
- □ Tolkning efter vessla eller skoter in området, kombinerat med övernattning
- □ Skidbestigning/utförsåkning med specialutrustning (randonné, telemark)

37. Hur ställer Du dig till följande åtgärder under vintersäsongen?

- □ Att vissa leder tillfälligt kan stängas av för skidåkare av hänsyn till renskötseln
- □ Att vissa leder tillfällig kan stängas av för skotertrafik av hänsyn till renskötseln
- □ Att vissa leder stängs helt för skidåkare efter 15 april av hänsyn till renskötseln
- □ Att vissa leder stängs helt för skotertrafik efter 15 april av hänsyn till renskötseln
- □ Att vissa områden får tillträdesförbud efter 15 april av hänsyn till naturvård
- □ Att vissa områden får tillträdesförbud efter 15 april av hänsyn till renskötseln

<table>
<thead>
<tr>
<th>Mycket negativ</th>
<th>Negativ</th>
<th>Neutral</th>
<th>Positiv</th>
<th>Mycket positiv</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>
38. Senaste gången Du besökte området under vintersäsong observerade Du då snöskotrar längs leder och inne i området på andra platser än i direkt anslutning till vägar, parkeringsplatser eller bebyggelsen i Vålådalen, Ljungdalen, Storulvån etc.?  
- Många gånger per dag
- Någon gång per dag
- Enstaka tillfällen
- Inte alls
- Vet ej

39. Såg Du fler eller färre snöskotrar än Du förväntat dig?  
- Mycket fler
- Något fler
- Ungefär som väntat
- Något färre
- Mycket färre

40. Om Du upplevde buller vad tyckte Du om detta?  
- Störde inte
- Nästan inte
- Lite
- Ganska mycket
- Mycket mycket

41. Om Södra Jämtlandsfjällen blir nationalpark bör man då:  
- Införa totalt skoterförbud i området?
- Förbjuda skotertrafik längs de leder som idag är upplåtna
- Etablera nya skoterleder skilda från nuvarande vintermärkta leder för att skilja skotertrafik och skidåkare.
42. Vi ber dig ta ställning till följande påståenden om **Södra Jämtlandsfjällen**:

<table>
<thead>
<tr>
<th>Påstående</th>
<th>Helt enig</th>
<th>Delvis enig</th>
<th>Varken enig eller oenig</th>
<th>Delvis oenig</th>
<th>Helt oenig</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td>Det är för mycket folk i Södra Jämtlandsfjällen</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Det finns gott om ren i Södra Jämtlandsfjällen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Djurlivet är rikt</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Artrikedomen i Södra Jämtlandsfjällen är stor</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Det finns mycket spår efter terrängfordon</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Det skulle kunna komma flera besökare till Södra Jämtlandsfjällen utan att det skulle störa upplevelsen</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terrängen är lätt att gå i</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vandringslederna är välskötta</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kraftledningarna i området är störande</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Naturen i Södra Jämtlandsfjällen är välbehållen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jag är mycket nöjd med min upplevelse av Södra Jämtlandsfjällen och dess omgivningar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Det finns gott om mygg i Södra Jämtlandsfjällen</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Det är för långa dagsetapper mellan turiststugorna.</td>
<td></td>
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</tr>
</tbody>
</table>

**Om Södra Jämtlandsfjällen**
• Det skulle vara positivt om hotell/privata företag arrangerade "vildmarkssafari" in i Södra Jämtlandsfjällen.

• Det är positivt att se renar i området.

• Djurlivet blir mycket stört av friluftslivet.

• Jag besöker Vålådalen för att det är ett naturreservat.

• De som fiskar skräpar ned mest.

• Det är positivt att se spår av renskötsel i området (skiljningshagar, renstängsel m.m.).

• Den svenska vintermärkningen av leder (kryssmarkeringar) är ett alltför stort ingrepp i ett fjällområde.

• Inplantering av fisk för att förbättra möjligheterna för sportfiske bör inte göras.

• Södra Jämtlandsfjällen bör bli nationalpark.
43. Vi ber dig ta ställning till följande påståenden om Din anknytning till Södra Jämtlandsfjällen:

<table>
<thead>
<tr>
<th>Påstående</th>
<th>Helt enig</th>
<th>Delvis enig</th>
<th>Varken enig eller oenig</th>
<th>Delvis oenig</th>
<th>Helt oenig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Området känns som en del av mig</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inget annat område ger mig samma möjligheter att göra saker på fritid som jag tycker om</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jag identifierar mig starkt med detta område</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min familj har sedan länge anknytning till detta område</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Området är viktigt för mig på grund av min livsstil</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jag känner mig knuten till området</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hur området utvecklas är viktigt för mig</td>
<td>Helt enig</td>
<td></td>
<td></td>
<td>Delvis oenig</td>
<td>Helt oenig</td>
</tr>
</tbody>
</table>

44. Man vet att ett område kan vara viktig för personlig tillhörighet. Hur viktiga är olika delar av miljön i området för Din upplevelse av tillhörighet?

<table>
<thead>
<tr>
<th>Miljökomponent</th>
<th>Mycket viktigt</th>
<th>Viktigt</th>
<th>Neutral</th>
<th>Mindre viktigt</th>
<th>Inte alls viktigt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naturmiljön; fjäll, dalar, skog, flora och fauna</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Lokal kulturhistoria och kulturella värden</td>
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<tr>
<td>Friluftsliv</td>
<td></td>
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</tbody>
</table>
45. vilka följande faktorer anser du vara ett hot mot växttäcke och biologisk mångfald i södra jämtlandsfjällen.

<table>
<thead>
<tr>
<th>Faktor</th>
<th>Helt enig</th>
<th>Delvis enig</th>
<th>Varken enig eller oenig</th>
<th>Delvis oenig</th>
<th>Helt oenig</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luftförroreningar och försurning</td>
<td></td>
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<tr>
<td>Vandring</td>
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<tr>
<td>Skoterkörning</td>
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<tr>
<td>Mountainbike cykling</td>
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<tr>
<td>Renarnas bete</td>
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<tr>
<td>Terrängfordon</td>
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<tr>
<td>Ridning</td>
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<tr>
<td>Allemansrätten</td>
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</table>

46. vilka följande faktorer anser du vara ett hot mot vildmarksupplevelse i södra jämtlandsfjällen.

<table>
<thead>
<tr>
<th>Faktor</th>
<th>Helt enig</th>
<th>Delvis enig</th>
<th>Varken enig eller oenig</th>
<th>Delvis oenig</th>
<th>Helt oenig</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vindkraftverk i området</td>
<td></td>
<td></td>
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<tr>
<td>Vindkraftverk i nära anslutning till området</td>
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<tr>
<td>Telemaster</td>
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<tr>
<td>Skoterkörning</td>
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<tr>
<td>Andra terrängfordon</td>
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<tr>
<td>Mountainbike cykling</td>
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<tr>
<td>Kraftledningar</td>
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<tr>
<td>Överexploatering och trängsel</td>
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</tbody>
</table>
47. Vilka följande faktorer anser Du vara ett hot mot utveckling av turism i Södra Jämtlandsfjällen?

<table>
<thead>
<tr>
<th>Faktor</th>
<th>Helt enig</th>
<th>Delvis enig</th>
<th>Varken enig eller oenig</th>
<th>Delvis oenig</th>
<th>Helt oenig</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ökade restriktioner</td>
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<tr>
<td>Vindkraftverk i området</td>
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<tr>
<td>Vindkraftverk i nära anslutning till området</td>
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<tr>
<td>Överexploatering och trängsel</td>
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<tr>
<td>Skoteråkning</td>
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<tr>
<td>Andra terrängfordon</td>
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<tr>
<td>Slitage</td>
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<tr>
<td>Nya avgifter</td>
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</tr>
<tr>
<td>Ökade restriktioner</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Rennäring</td>
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</tbody>
</table>

48. Vad anser Du bör göras för att undvika förslitning av Södra Jämtlandsfjällen?

<table>
<thead>
<tr>
<th>Maßnahme</th>
<th>Helt enig</th>
<th>Delvis enig</th>
<th>Varken enig eller oenig</th>
<th>Delvis oenig</th>
<th>Helt oenig</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td>Förbjuda tillträde till särskilt känsliga områden</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endast låta ett visst antal människor besöka ett område åt gången.</td>
<td></td>
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<tr>
<td>Bygga spänger.</td>
<td></td>
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</tr>
<tr>
<td>Bötfälla de som skräpar ned eller bryter mot bestämmelser i reservat/nationalparker.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Styra besökare till markerade stigar.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Tydligare informera om naturens känslighet.</td>
<td></td>
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</tr>
</tbody>
</table>
- Införa förbud mot terrängfordon.
- Förbjudra tältning i vissa områden.
- Utöka naturskyddet i området.
- Styra antalet besökare under känsliga tidpunkter.
- Ta bort allemansrätten.
- Minska antalet renar.
- Stänga av vissa leder.
- Införa övernattningsavgift för tältare.
- Vandring i vissa fjällområden regleras genom tillträde endast med guide.
- Cykling tillåts bara på vissa leder och områden.
- Vandring tillåts bara på vissa leder och områden.
- Ridning tillåts bara på vissa leder och områden.
- Cykling i vissa fjällområden regleras genom tillträde endast med guide.
- Ridning i vissa fjällområden regleras genom tillträde endast med guide.
- Införa besöksavgift.
- Införa förbud mot snöskotrar.
49. Det finns olika åtgärder som kan genomföras för att låta marken återhämta sig efter förslitningsskador. Vi ber Dig ta ställning till följande åtgärdsalternativ.

<table>
<thead>
<tr>
<th></th>
<th>Helt enig</th>
<th>Delvis enig</th>
<th>Varken enig eller oenig</th>
<th>Delvis oenig</th>
<th>Helt oenig</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flytta ledsträckningen.</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
<tr>
<td>Stänga ledsträckningen.</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
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</tr>
<tr>
<td>Bygga spånger.</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
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<td>❑</td>
</tr>
<tr>
<td>Förbjuda tillträde till vissa områden.</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
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</tbody>
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<thead>
<tr>
<th></th>
<th>Mycket positivt</th>
<th>Positivt</th>
<th>Neutral</th>
<th>Negativt</th>
<th>Mycket negativt</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
<td>❑</td>
</tr>
</tbody>
</table>
Reglering av hänsyn till renskötsel och naturvård i Södra Jämtlandsfjällen

Det kan av hänsyn till naturvård och renskötsel vara önskvärt att ändra vissa leder eller tillfälligt stänga av dem under känsliga perioder. Här följer några frågor om Din inställning till dessa frågor.

Observera att frågorna är konstruerade som exempel på åtgärder som kan vidtas.

51. Borde vissa områden avsättas för renskötseln?

<table>
<thead>
<tr>
<th>Helt enig</th>
<th>Delvis enig</th>
<th>Varken enig</th>
<th>Delvis eller oenig</th>
<th>Helt oenig</th>
<th>Vet ej</th>
</tr>
</thead>
</table>
• Genom tillträdesförbud till vissa områden. □ □ □ □ □ □
• Genom att flytta vissa vandringsleder. □ □ □ □ □ □

52. Borde vissa områden avsättas för naturvård?

<table>
<thead>
<tr>
<th>Helt enig</th>
<th>Delvis enig</th>
<th>Varken enig</th>
<th>Delvis eller oenig</th>
<th>Helt oenig</th>
<th>Vet ej</th>
</tr>
</thead>
</table>
• Genom tillträdesförbud till vissa områden. □ □ □ □ □ □
• Genom att flytta vissa vandringsleder. □ □ □ □ □ □

53. Vem/vilka anser Du har störst ansvar för åtgärder för att minska/undvika nedslitning?

- Markägaren □
- Besökarna □
- Staten (Länsstyrelsen och Naturvårdsverket) □
- Researrangören □
- Kommunen □
- Rennäringen □
- STF □
- Annan: ____________________


54. Vilken typ av information och i vilken utsträckning utnyttjade Du före resan för att planera turen?

<table>
<thead>
<tr>
<th>Typ av Information</th>
<th>Inte alls</th>
<th>Lite</th>
<th>Något</th>
<th>Ganska mycket</th>
<th>Mycket</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td></td>
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<tr>
<td>Broschyrer</td>
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<tr>
<td>STF</td>
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<tr>
<td>Resehandböcker</td>
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<tr>
<td>Kartor</td>
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<tr>
<td>Annat</td>
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</tbody>
</table>

55. Vilken typ av information utnyttjade Du under fjällturen?

<table>
<thead>
<tr>
<th>Typ av Information</th>
<th>Inte alls</th>
<th>Lite</th>
<th>Något</th>
<th>Ganska mycket</th>
<th>Mycket</th>
<th>Vet ej</th>
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</thead>
<tbody>
<tr>
<td>Naturum i Vålådalen</td>
<td></td>
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<tr>
<td>Informationstavlor</td>
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<tr>
<td>Information i fjällstationerna/-stugorna</td>
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<tr>
<td>Personlig information, STF personal, naturbevakare etc.</td>
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<tr>
<td>Annat</td>
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</tr>
</tbody>
</table>

56. Vilken typ av information skulle Du vilja att man utvecklade?

<table>
<thead>
<tr>
<th>Typ av Information</th>
<th>Inte alls</th>
<th>Lite</th>
<th>Något</th>
<th>Ganska mycket</th>
<th>Mycket</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kartor</td>
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<tr>
<td>Informationstavlor</td>
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<tr>
<td>Information i fjällstationerna/-stugorna</td>
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<tr>
<td>Personlig information, STF personal, naturbevakare etc.</td>
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<tr>
<td>Information om naturvård</td>
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<td></td>
</tr>
<tr>
<td>Information om rennäring</td>
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<tr>
<td>Annat</td>
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</tbody>
</table>
Framtida nationalpark?

I Naturvårdsverkets förslag till nya nationalparker i Sverige tas Södra Jämtlandsfjällen upp som en tänkbar nationalpark. För närvarande är förslaget vilande och de två berörda kommunerna Åre och Berg genomför en översiktlig planering för områdets framtida utveckling.

57. Om området blev nationalpark, skulle det bli mer attraktivt att besöka för Dig?

☐ Nej  ☐ Ja  ☐ Vet ej

58. Om området blev nationalpark, tror Du att det skulle komma flera icke svenska gäster?

☐ Nej  ☐ Ja  ☐ Vet ej

59. Om antalet icke svenska besökare ökar, hur tror Du att det kommer att påverka rennäringen/naturvård?

Mycket negativt  Negativt  Neutral  Positivt  Mycket positivt  Vet ej

☐  ☐  ☐  ☐  ☐  ☐

60. Om området blev nationalpark, tror Du att det är positivt för utveckling av turism?

☐ Nej  ☐ Ja  ☐ Vet ej


☐ Jag skulle värdera mitt besök ________ % lägre

☐ Det skulle inte påverka min värdering av besöket i området

☐ Jag skulle värdera mitt besök ________ % högre

Motivera Ditt svar:

_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
Om Din resa till Södra Jämtlandsfjällen


A. Hur många dagar varade Din resa totalt? Räkna det totala antalet dagar från det att Du lämnade hemorten till det att Du kom tillbaka.

Svar: ____ dagar.

B. När åkte Du hemifrån? Ange datum, t ex. 990715.

Svar: _______

C. När kom Du till Södra Jämtlandsfjällen? Ange datum, t ex. 990715.

Svar: _______

D. Hur många dagar tillbringade Du i Södra Jämtlandsfjällen?

Svar: ______ dagar


0% 
50% 
100%

64. Ungefär hur mycket kostade resan Du gjorde? Uppskatta Dina totala utgifter från det att Du lämnade bostaden till det att Du kom tillbaka.

Belopp: _________ kr


Belopp: _____________ kr


Svar: ______ %
### Några allmänna frågor om Din syn på friluftsliv/friluftsområden

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>• att det finns övernattningsstugor med passande avstånd.</td>
<td>Mycket negativt</td>
<td>Negativt</td>
<td>Neutral</td>
<td>Positivt</td>
</tr>
<tr>
<td>• att det finns iordninggjorda lägerplatser med toalett, soptunnor, eldstad m.m.</td>
<td></td>
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<tr>
<td>• att det finns rösade leder.</td>
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<td></td>
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<tr>
<td>• att det finns broar över stora bäckar/älvar.</td>
<td></td>
<td></td>
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<tr>
<td>• att det är spångat över våtmarker.</td>
<td></td>
<td></td>
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<tr>
<td>• att kunna tälta utom syn- och hörhåll från andra människor.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>• att få uppleva orörd natur.</td>
<td></td>
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</tr>
<tr>
<td>• att det är god skyltning vid ledernas början och i ledkorsningar.</td>
<td></td>
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<tr>
<td>• att se spår (eldplatser, slitage m.m.) efter andra besökare.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>• att bara se ett fåtal andra besökare (förutom eventuella turkamrater).</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>• att höra buller (t.ex. motorljud).</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>• att kunna gå flera dygn utan att se hus, vägar m.m.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• att man kan bli transporterad med flyg in i ett område.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>• att få lov att göra upp eld där Du vill.</td>
<td>Mycket negativt</td>
<td>Negativt</td>
<td>Neutral</td>
<td>Positivt</td>
</tr>
</tbody>
</table>
• att kunna köra in med bil i ett attraktivt område för att göra dagsturer.

• att få veta att våra fyra största rovdjur (varg, björn, lo eller järv) kan finnas i området.

• att det finns fjällstationer med vandrarhemstandard (servering, sänglinne).

• att det finns försäljning av proviant/utrustning.

• att man kan komma till området med kollektiva transporter.

• att det finns guidade turer i området.

• att det finns vindskydd.

• att det finns tillgång till nödtelefon.

• att mobiltelefonsystemet har god täckning.

• att det är rent, drickbart vatten i sjöar och vattendrag.

• att se spår av terrängfordon.

• att det finns installationer t.ex. kraftledningar, telemaster.

• att området hyser sällsynta djur och växter.

• att området har stort blomsterprakt.

• att området har bra fiske.

• att området övervägande består av kallfjäll.

• att området har mycket sjöar och vattendrag.

Mycket negativt    Negativt    Neutral      Positivt      Mycket positivt
• att området består av både kalfjäll och skogsterräng.

• att umgås med andra människor i stugor, på rastplatser etc.

• att möta andra människor under vandringen.

• att möta utländska turister.

• att få vandra utanför lederna.

• att få tälta fritt.

• att få landa med flyg eller helikopter.

• att få lov att använda mountainbike.

• att få lov att rida.
Alternativa semesterplaner

68. Följande frågor handlar om Dina alternativa semesterplaner:

A. Valde Du mellan några andra alternativ när Du bestämde dig för att åka till Södra Jämtlandsfjällen på semester?

☐ Nej (gå till fråga 69)  ☐ Ja (gå till fråga 68B)  ☐ Vet ej (gå till fråga 69)

B. Vilka andra alternativ hade Du till vandring i Södra Jämtlandsfjällen? *Flera alternativ kan anges.*

☐ Vandring i andra svenska fjällområden:

- ☐ Kebnekaise området
- ☐ Sarek/Padjelanta
- ☐ Jämtlandsfjällen
- ☐ Dalafjällen
- ☐ Abisko/Björkliden/Riksgränsen området
- ☐ Rogen/Långfjället
- ☐ Vindelfjällen
- ☐ Annat: __________________________

☐ Vandring i andra bergsområden, ange vilket/vilka:________________________________________

☐ Storstäder

☐ Sol och badorter

☐ Kultur

☐ Shopping

☐ Besöka släkt och vänner

☐ Sport, ange vilka/vilken __________________________________________

☐ Annat: _______________________________________________________
Tidigare resor till fjällen

69. Har Du tidigare besökt Södra Jämtlandsfjällen under sommarsäsong (juni-oktober)?

☒ Nej
☒ Ja

Om ja, hur många gånger?

☒ 1 gång
☒ 2-3 gånger
☒ 4-10 gånger
☒ Fler än 10 gånger

70. Har Du tidigare besökt Södra Jämtlandsfjällen under vintersäsong (november-maj)?

☒ Nej
☒ Ja

Om ja, hur många gånger?

☒ 1 gång
☒ 2-3 gånger
☒ 4-10 gånger
☒ Fler än 10 gånger

71. Vilka andra fjällområden i Sverige har Du tidigare besökt? Flera alternativ kan anges.

☒ Sarek/Padjelanta
☒ Dalafjällen
☒ Kebnekaise området
☒ Vindelfjällen
☒ Abisko/Björkliden/Riksgränsen området
☒ Annat: ________________________________

72. Har Du tidigare varit på flerdagarstur någonstans i svenska fjällen?

☒ Nej
☒ Ja, ______ gånger

73. Har Du någon gång under de senaste två åren varit i svenska fjällen under vintertid?

☒ Nej (gå till fråga 75)
☒ Ja, sammanlagt ______ antal dagar (gå till fråga 74)

74. Vilka av följande aktiviteter ägnade Du Dig åt den senaste gången Du turistade i svenska fjällen under vintertid? Välj ett eller flera svarsalternativ.

☒ Turskidåkning ______ antal dagar
☒ Snowboardåkning ______ antal dagar
☒ Pimpelfiske ______ antal dagar
☒ Heliskiing ______ antal dagar
☒ Annat ______ antal dagar, nämligen _______________________________________
Värdet av Ditt besök

För att minska den påverkan turismen i Södra Jämtlandsfjällen medför på natur, kultur och renskötsel kan olika åtgärder vidtas. Många av dessa, exempelvis anläggande av spänger, rastplatser och vindskydd, samt spridning av information till besökare bidrar också till en ökad fjällsäkerhet. Merparten av kostnaderna för detta betalas idag av svenska staten.

75.Antag att alla besökare i Södra Jämtlandsfjällen får betala en speciell avgift där intäkterna går till att minska turismens störningar på natur, kultur och renskötsel, samt höja fjällsäkerheten i området. Avgiften varierar med längden på besöket och kan exempelvis tas ut i form av en "entréavgift" eller en avgift för övernattning.

A. Tänk nu på den tur Du gjorde i Södra Jämtlandsfjällen i somras. Om Du hade varit tvungen att betala en avgift på 100 kronor per dygn Du vistades i området, hur skulle en sådan avgift ha påverkat ditt besök?

☐ Den skulle inte alls ha påverkat mitt beslut att resa till Södra Jämtlandsfjällen eller längden på mitt besök i området

☐ Mitt besök i Södra Jämtlandsfjällen skulle ha blivit __________ dagar kortare

☐ Jag hade valt att inte alls åka till Södra Jämtlandsfjällen

B. Vad skulle Du maximalt ha varit beredd att betala i avgift per dygn Du vistades i Södra Jämtlandsfjällen innan Du beslutat att inte alls besöka området?

Svar, jag skulle ha varit beredd att betala maximalt __________ kronor per dygn.

Om ditt svar på ovanstående fråga är 0 kronor, vänligen motivera varför:____________________________________________________________

____________________________________________________________

____________________________________________________________
76. Antag att Du betalat en avgift per dygn Du vistades i Södra Jämtlandsfjällen i somras. Vad skulle Du då vilja att intäkterna från denna används till?

**Fördela 100 % på alternativen nedan.**

_____ öka skyddet för de naturvärden som finns i området
_____ öka skyddet för de kulturvärden som finns i området
_____ minska turismens störningar på renskötseln i området
_____ öka fjällsäkerheten för besökare i området
_____ annat, ange vad: _______________________

Summa: **100 %**
77. Ditt födelseår:______

78. Kön
Jag är:
☐ Man ☐ Kvinna

79. Civilstånd:
☐ Ensamstående  ☐ Gift eller samboende  ☐ Särboende

80. Hur många personer består Ditt hushåll av?
Antal:_______ varav barn:_______

81. Ange postnummer till den plats där Du är bosatt.
Sverige:__________

82. Vilken högsta utbildning har Du?
☐ Grundskoleexamen eller motsvarande
☐ Gymnasieexamen eller motsvarande
☐ Högskole-/universitetsexamen eller motsvarande
☐ Forskarutbildning
☐ Yrkesutbildning
☐ Annat:__________________________________________________________________

83. Ungefär hur stor var den sammanlagda inkomsten i Ditt hushåll under 1999 efter skatt (nettoinkomst)?
☐ Upp till 50 000 SEK  ☐ 250 000-299 000 SEK
☐ 50 001-99 999 SEK  ☐ 300 000-349 000 SEK
☐ 100 000-149 000 SEK  ☐ 350 000-399 000 SEK
☐ 150 000-199 000 SEK  ☐ 400 000-449 000 SEK
☐ 200 000-249 000 SEK  ☐ 450 000-500 000 SEK
☐ mer än 500 000 SEK, ungefär___________ SEK
Appendix 4

Natur och turism i Södra Jämtlandsfjällen – vad tycker du?
Till att börja med vill vi ställa några generella frågor om snöskoteråkning och turskidåkning.

Med snöskoteråkning menar vi tillfällen då Du själv kör snöskotern. Till turskidåkning räknas all typ av turskidåkning utom konditionsträning och tävling i preparerade spår.


1. Hur många dagar, i genomsnitt per år, ägnar Du åt snöskoteråkning?
   (Även del av dag räknas som heldag)
   - 0 dagar → gå vidare till fråga 4
   - 1-5 dagar
   - 6-10 dagar
   - 11-20 dagar
   - 21-30 dagar
   - 31 dagar eller mer

2. Av de dagar Du åker snöskoter, hur ofta gör Du det i följande syften?

<table>
<thead>
<tr>
<th>Ärbetet</th>
<th>Omgivande nöjesområde</th>
<th>Fritidsaktivitetar (t.ex. fiska)</th>
<th>För nöjet av själva snöskoteråkandet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aldrig</td>
<td>Någon enstaka gång</td>
<td>Ganska ofta</td>
<td>Mycket ofta</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

3. Hur många av de dagar Du ägnar åt snöskoteråkning tillbringar Du i Södra Jämtlandsfjällen?
   (Räkna även de dagar då Du passerat genom området)
   - 0 dagar
   - 1-5 dagar
   - 6-10 dagar
   - 11-20 dagar
   - 21-30 dagar
   - 31 dagar eller mer

4. Hur många dagar, i genomsnitt per år, ägnar Du åt turskidåkning (dagsturer)?
   (Även del av dag räknas som heldag)
   - 0 dagar
   - 1-5 dagar
   - 6-10 dagar
   - 11-20 dagar
   - 21-30 dagar
   - 31 dagar eller mer
5. Hur många dagar, i genomsnitt per år, ägnar Du åt turskidåkning med övernattning (flerdagsturer)?

- [ ] 0 dagar
- [ ] 1-5 dagar
- [ ] 6-10 dagar
- [ ] 11-20 dagar
- [ ] 21-30 dagar
- [ ] 31 dagar eller mer

6. Hur många av de dagar Du ägnar åt turskidåkning (dagstur eller flerdagarstur) tillbringar Du i Södra Jämtlandsfjällen?

- [ ] 0 dagar
- [ ] 1-5 dagar
- [ ] 6-10 dagar
- [ ] 11-20 dagar
- [ ] 21-30 dagar
- [ ] 31 dagar eller mer

7. Om Du någon gång har åkt snöskoter i Södra Jämtlandsfjällen, vilken eller vilka av nedanstående sträckor har Du då färdats på (helt eller delvis)?

- [ ] Vålådal - Vålåstugan
- [ ] Vålådal-Lunndörrstugor
- [ ] Helags - Syslön
- [ ] Kläppen - Helags
- [ ] Vallbo - Lunndörrstugorna
- [ ] Vallbo - Anarisstugan
- [ ] Tossåsen - Lunndörrstugorna
- [ ] Fältjägaren - Helags
- [ ] Vålåstugan - Helags
- [ ] Ljungris - Vålåstugan
- [ ] Annan: __________________________
- [ ] Jag har aldrig åkt snöskoter i Södra Jämtlandsfjällen

8. Om Du någon gång har åkt turskidor i Södra Jämtlandsfjällen, vilken eller vilka av nedanstående sträckor har Du då färdats på (helt eller delvis)?

- [ ] Vålådal - Vålåstugan
- [ ] Vålådal-Lunndörrstugor
- [ ] Vålådal - Stensdalsstugorna
- [ ] Anarisstuga-Lunndörrstugor
- [ ] Vallbo - Lunndörrstugorna
- [ ] Vallbo - Anarisstugan
- [ ] Lunndörrstugorna - Vålåstugan
- [ ] Tossåsen - Lunndörrstugorna
- [ ] Vålåstugan - Helags
- [ ] Kläppen - Helags
- [ ] Fältjägaren - Helags
- [ ] Ljungris - Vålåstugan
- [ ] Helags - Sylarna
- [ ] Helags - Gåsen
- [ ] Helags - Nedalshytta
- [ ] Sylarna - Nedalshytta
- [ ] Sylarna - Storerikvollen
- [ ] Sylarna - Blåhammare
- [ ] Blåhammare - Storerikvollen
- [ ] Storvalen - Blåhammare
- [ ] Rundhögen - Blåhammare
- [ ] Rundhögen - Storulvän
- [ ] Blåhammare - Storulvän
- [ ] Enapors - Blåhammare
- [ ] Storulvän - Gåsen
- [ ] Sylarna - Blåhammare
- [ ] Stensdalsstugorna - Vålåstugan
- [ ] Gåsen - Sylarna
- [ ] Blåhammare - Storulvän
- [ ] Enafors - Storulvän
- [ ] Storulvän - Sylarna
- [ ] Ansvan: __________________________
- [ ] Jag har aldrig åkt turskidor i Södra Jämtlandsfjällen
9. Vi ber dig ta ställning till följande påståenden om Din anknytning till Södra Jämtlandsfjällen:
(Ringa in en siffra för varje påstående)

<table>
<thead>
<tr>
<th>Påstående</th>
<th>Helt oenig</th>
<th>Delvis oenig</th>
<th>Varken enig eller oenig</th>
<th>Delvis enig</th>
<th>Helt enig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Området känns som en del av mig</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Inget annat område jag känner till ger mig samma möjligheter att göra saker på min fritid</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Jag identifierar mig starkt med detta område</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Min familj har sedan länge anknytning till detta område</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Området är viktigt för mig på grund av min livsstil</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Jag känner mig knuten till området</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Hur området utvecklas är viktigt för mig</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Markera det alternativ som bäst stämmer in på Dig. (Ringa in en siffra för varje påstående)

<table>
<thead>
<tr>
<th>Påstående</th>
<th>Helt oenig</th>
<th>Delvis oenig</th>
<th>Varken enig eller oenig</th>
<th>Delvis enig</th>
<th>Helt enig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restriktioner för snöskoteråkare bör vara desamma som för turskidåkare</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Att tillåta snöskoteråkning i samma område som turskidåkning innebär en säkerhetsrisk för turskidåkare</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Snöskoteråkning är lämpligt i det här området</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Andra terrängfordon är lämpligt i det här området</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Turskidåkning är lämpligt i det här området</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Vid planerandet av turskidleder borde, i första hand, hänsyn tas till snöskoteråkning</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Turskidåkning har en betydande miljöpåverkan (t.ex. slitage, nedskräpning, störning på djurliv)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Snöskoteråkare har en betydande miljöpåverkan (t.ex. slitage, nedskräpning, störning på djurliv)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
miljöpåverkan (te.x. slitage, nedspråpning, störning på djurliv)

<table>
<thead>
<tr>
<th></th>
<th>Mycket negativt</th>
<th>Negativt</th>
<th>Neutral</th>
<th>Positivt</th>
<th>Mycket positivt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Närvaren av snöskoteråkare är till nytta för turskidåkare vid en eventuell olycka</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Turskidåkning i området minskar möjligheterna till bra snöskoteråkning</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Snöskoteråkare är till nytta för djurlivet genom att de lämnar packad snö efter sig som djuren lätt kan gå på</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Turskidåkare bör alltid lämna företräde för snöskoteråkare i området</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Det är positivt att se renar i området</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Det är positivt att se spår av renskötsel i området (skiljningshagar, renstängsel m.m.)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Telemaster i området är störande</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Mountainbike cykling är lämpligt i det här området</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Kraftledningar i området är störande</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Turskidåkare har nytta av snöskoteråkare eftersom de hjälper till att skapa lättåkta spår</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Skoteråkare förstör lederna för turskidåkare</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Allt för mycket pengar satsas på underlättandet av turskidåkning, och för lite på snöskoteråkning</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Skadorna från skoterspår är större än skadorna från skidspår</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

11. **Konflikter uppstår ibland mellan olika grupper av friluftsutövare eller andra markanvändare. Nedan följer ett antal tänkbara åtgärder som kan användas för att hantera olika typer av konflikter som vi vill att Du tar ställning till.** (Ringa in en siffra för varje påstående)

<table>
<thead>
<tr>
<th></th>
<th>Mycket negativt</th>
<th>Negativt</th>
<th>Neutral</th>
<th>Positivt</th>
<th>Mycket positivt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Förbjuda tillträde till särskilt känsliga områden</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Endast låta ett visst antal människor besöka ett område åt gången</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Styra besökare till markerade leder</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Tydligare informera om naturens känslighet</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Minska antalet renar</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Införa besöksavgift</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Införa förbud mot snöskotrar</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Införa förbud mot skidåkare</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Stänga vissa leder tillfälligt för skidåkare av hänsyn till renskötseln</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Stänga vissa leder tillfälligt för skotertrafik av hänsyn till renskötseln</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Etablera nya skoterlider skilda från nuvarande vintermärkta leder för att skilja skotertrafik och skidåkare</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Införa förbud mot större grupper av besökare</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Införa miljöavgifter på aktiviteter som förorsakar naturljön mycket störning</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Införa fler gemensamma leder för skoter och turskidåkning för att minska störningar på djurliv och natur</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Styra antalet besökare under känsliga tider</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

12. Anser Du att det finns en konflikt mellan turskidåkare och snöskoteråkare i Södra Jämtlandsfjällen?

- Nej → gå vidare till fråga 14
- Ja, små konflikter
- Ja, stora konflikter

13. Om ja, vad anser Du att man ska göra för att minska dessa problem?
14. Olika grupper i samhället kan ha olika åsikter kring hur ett naturområde ska förvaltas. Vi skulle nu vilja att Du för följande grupper markerar vilken prioritet/vikt som Du anser att gruppens åsikter kring förvaltning av naturområden bör ha. (Ringa in en siffra för varje påstående)

<table>
<thead>
<tr>
<th>Lokalbefolkning</th>
<th>Mycket liten vikt</th>
<th>Liten vikt</th>
<th>Genomsnittlig vikt</th>
<th>Stor vikt</th>
<th>Mycket stor vikt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Svenska medborgare som bor på annan ort, men som <strong>besöker området</strong></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Svenska medborgare som bor på annan ort som <strong>inte besöker området</strong></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Utländska medborgare som <strong>besöker området</strong></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Utländska medborgare som <strong>inte besöker området</strong></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

15. Denna fråga handlar om Din uppfattning om förvaltning och skötsel av fjällen. Visa vad Du tycker genom att markera det alternativ som passar Dig bäst. (Ringa in en siffra för varje påstående)

<table>
<thead>
<tr>
<th>Att det finns iordninggjorda lägerplatser med toalett, soptunnor, eldstad m.m.</th>
<th>Mycket negativt</th>
<th>Negativt</th>
<th>Neutral</th>
<th>Positivt</th>
<th>Mycket positivt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Att det finns fjällstationer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Att det finns markerade leder</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Att kunna köra in med bil i ett attraktivt område för att göra dagsturer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Att se spår (eldplatser, slitage m.m.) efter andra besökare</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Att se spår av terrängfordon</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Att få uppleva orörd natur</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Att kunna förflytta sig flera dygn utan att se hus, vägar m.m.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Att bara se ett fåtal andra besökare (förutom eventuella turkamrater)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Att möta utländska turister</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Att få vandra utanför leder</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Att få tälta fritt  
Att få landa med flyg och helikopter  
Att få lov att använda mountainbike  
Att området hyser sällsynta djur och växter  
Att få veta att våra fyra största rovdjur (varg, björn, lo eller järv) kan finnas i området  
Att få lov att göra upp eld där du vill  
Att området har en vildmarkskärna med mer än 5 kilometer till närmaste hus, väg, kalhygge, damm, telemast etc.

16. Det finns planer på att bygga ut vindkraften i fjällen. Vad anser Du om detta?

<table>
<thead>
<tr>
<th>Mycket negativt</th>
<th>Negativt</th>
<th>Neutral</th>
<th>Positivt</th>
<th>Mycket positivt</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Tick]</td>
<td>![Tick]</td>
<td>![Tick]</td>
<td>![Tick]</td>
<td>![Tick]</td>
<td>![Tick]</td>
</tr>
</tbody>
</table>

17. En utbyggnad av vindkraften innebär framförallt en visuell förändring i landskapet. Hur skulle Du som boende i fjällvärlden uppleva följande påståenden. (Ringa in en siffra för varje påstående)

| ![Tick] | ![Tick] | ![Tick] | ![Tick] | ![Tick] | ![Tick] |
| ![Tick] | ![Tick] | ![Tick] | ![Tick] | ![Tick] | ![Tick] |
| ![Tick] | ![Tick] | ![Tick] | ![Tick] | ![Tick] | ![Tick] |
| ![Tick] | ![Tick] | ![Tick] | ![Tick] | ![Tick] | ![Tick] |

Som Du kanske känner till har det funnits planer att göra Södra Jämtlandsfjällen till nationalpark. Nu följer några frågor om Dina åsikter kring detta.

18. Skulle det vara positivt eller negativt för Dig om området blev nationalpark?

<table>
<thead>
<tr>
<th>Mycket negativt</th>
<th>Negativt</th>
<th>Saknar betydelse</th>
<th>Positivt</th>
<th>Mycket positivt</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Tick]</td>
<td>![Tick]</td>
<td>![Tick]</td>
<td>![Tick]</td>
<td>![Tick]</td>
<td>![Tick]</td>
</tr>
</tbody>
</table>


19. Om området blev nationalpark, skulle det bli mer attraktivt att besöka för Dig?

Nej  Ja  Vet ej

20. Om området blev nationalpark, tror Du att det är positivt för utveckling av turism?

Nej  Ja  Vet ej

21. Om antalet inhemska besökare ökar i området, hur tror Du att det kommer att påverka rennäringen/naturvård?

Mycket negativt  Negativt  Saknar betydelse  Positivt  Mycket positivt  Vet ej

22. Om antalet utländska besökare ökar i området, hur tror Du att det kommer att påverka rennäringen/naturvård?

Mycket negativt  Negativt  Saknar betydelse  Positivt  Mycket positivt  Vet ej

**Nu följer några frågor om utveckling av turismen i Södra Jämtlandsfjällen och dess omgivningar (Undersåker, Vålådalen, Ljungdalen, Handöl etc.).**

23. Vad har Du för åsikt om antalet turister i detta område? De är under vintersäsongen...

Alldeles för få  Något för få  Varken eller  Något för många  Alldeles för många  Vet ej

24. Skulle Du säga att Du är för eller emot turism i detta område?

Starkt emot  Något emot  Neutral  Något för  Starkt för  Vet ej
25. Vilken förändring vill Du ska ske i antalet turister generellt i detta område de närmaste fem åren?

Minska mycket
Minska lite
Oförändrat/ som det är nu
Öka lite
Öka mycket
Vet ej

26. Vilken förändring vill Du ska ske i antalet utländska besökare i detta område de närmaste fem åren?

Minska mycket
Minska lite
Oförändrat/ som det är nu
Öka lite
Öka mycket
Vet ej

27. Vilken förändring vill Du ska ske i antalet snöskoteräkare i detta område de närmaste fem åren?

Minska mycket
Minska lite
Oförändrat/ som det är nu
Öka lite
Öka mycket
Vet ej

28. Vilken förändring vill Du ska ske i antalet turskidåkare i Södra Jämtlandsfjällen de närmaste fem åren?

Minska mycket
Minska lite
Oförändrat/ som det är nu
Öka lite
Öka mycket
Vet ej

Från olika organisationer och personer kan man höra olika meningar om turismutvecklingen i Södra Jämtlandsfjällen och dess omgivningar. Vi skulle vilja veta vilken information och vilka synpunkter du hör och läser om, och hur detta påverkar ditt förhållande till turismen.

29. Hur ofta får Du information eller hör synpunkter om turismutvecklingen i detta område från följande informationskällor?

Dagstidningar
Aldrig
Någon gång
Ofta
Kommunen
30. Hur pålitliga tror Du följande informationskällor är?

<table>
<thead>
<tr>
<th>Informationskällor</th>
<th>Opålitliga</th>
<th>Ganska pålitliga</th>
<th>Mycket pålitliga</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dagstidningar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kommunen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Politiker</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turistnäringen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vänner eller familj</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Andra invånare i kommunen</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

31. När Du hör eller läser om turismutvecklingen i detta område från olika informationskällor, vill Du då påstå att informationen generellt är positiv eller negativ?

<table>
<thead>
<tr>
<th>Informationskällor</th>
<th>Mycket negativ</th>
<th>Något negativ</th>
<th>Neutral</th>
<th>Något positiv</th>
<th>Mycket positiv</th>
<th>Aldrig hört/läst från denna källa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dagstidningar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kommunen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Politiker</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turistnäringen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vänner eller familj</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Andra invånare i kommunen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

32. Till sist, i vilken riktning anser Du att de olika informationskällorna påverkar Din åsikt om turismutvecklingen i detta område?

<table>
<thead>
<tr>
<th>Informationskällor</th>
<th>Mycket mer negativ</th>
<th>Något mer negativ</th>
<th>Ingen påverkan</th>
<th>Något mer positiv</th>
<th>Mycket mer positiv</th>
<th>Aldrig hört/ läst något fram denna källa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dagstidningar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kommunen</td>
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<tr>
<td>Politiker</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turistnäringen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vänner eller familj</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Andra invånare i kommunen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Slutligen några frågor om Dig själv och Ditt hushåll. Dina svar är naturligtvis konfidentiella.

33. Hur länge har Du bott i Din kommun?

☐ Född och har alltid bott i kommunen
☐ Utflyttad, men flyttade tillbaka för _______ år sedan
☐ Inflyttad, har bott i kommunen i _______ år

34. Kön:

☐ Kvinna  ☐ Man

35. Vilket år är Du född?

_______

36. Vilken högsta utbildning har Du?

☐ Grundskoleutbildning
☐ Gymnasieutbildning
☐ Yrkesutbildning
☐ Högskole/universitetsutbildning (3-4 år)
☐ Mer än 4 årig universitetsutbildning

37. Vilken är för närvarande den viktigaste inkomstkällan för Din hushållsekonomi? (Markera ett alternativ)

☐ Turistnäring
☐ Industri, bygg/anläggning
☐ Renskötsel
☐ Jordbruk, skogsbruk, gruvdrift
☐ Annan privat service
☐ Offentlig service
☐ Arbete i hemmet
☐ Studiebidrag
☐ Arbetslöshetsersättning
☐ Pension/föräldrapenning
☐ Annat ___________________________

38. Vilken är för närvarande den näst viktigaste inkomstkällan för Din hushållsekonomi? (Markera ett alternativ)

☐ Turistnäring
☐ Industri, bygg/anläggning
☐ Renskötsel
☐ Jordbruk, skogsbruk, gruvdrift
☐ Annan privat service
☐ Offentlig service
☐ Arbete i hemmet
☐ Studiebidrag
☐ Arbetslöshetsersättning
☐ Pension/föräldrapenning
☐ Annat ___________________________
☐ Ingen

39. Hur stor förvärvsinkomst (inkl. löner, pensioner, försäkringskassa, olika slag av a-kassa) hade Du själv under år 2000 före skatt?

☐ Mindre än 80.000 kr
☐ 80.000-120.000 kr
☐ 120.000-160.000 kr
☐ 160.000-200.000 kr
☐ 240.000-280.000 kr
☐ 280.000-340.000 kr
☐ 340.000-400.000 kr
☐ 400.000-500.000 kr
Tack för Din medverkan!

Posta den ifyllda enkäten i det portofria svarskuvertet. Om Du har ytterligare kommentarer, skriv gärna på baksidan av enkäten. Skulle Du vilja fråga något om undersökningen eller komplettera den med någon uppgift är Du välkommen att höra av Dig.
Appendix 5

Fjällräkning!

Välkommen till fjälls! För att bidra till förvaltning av fjällnaturen i södra Jämtland och norra Härjedalen kartlägger vi användningen av området. Till detta behöver vi din hjälp.

Vi ber dig därför öppna luckan och fylla i ett registreringskort.

Om du under den här turen redan fyllt i ett kort behöver du inte göra det igen. Men om du gör flera turer in i området i sommar ber vi dig att fylla i ett kort varje gång.

På förhand tack för din hjälp! Dina uppgifter behövs!

Trail register.
Please open!

Besuchsregistrierung.
Bitte Öffnen!
Hoppas att du har haft en bra tur!

Om du under den här turen redan fyllt i ett kort vid någon av boxarna i området behöver du inte göra det igen.

Om inte, ber vi dig öppna luckan och fylla i ett registreringskort.

På förhand tack för din hjälp och välkommen åter!

Trail register.
Please open!

Besuchsregistrierung.
Bitte Öffnen!

Fjällräkning.
ETOUR
Appendix 6

Du är med oss! Bra!

Var vänlig fyll i ett kort och lägg ned det i ”brevlådan”.

Om ni är flera personer i gruppen ber vi alla fylla i ett eget kort.

Glöm inte att STÄNGA LUCKAN när du är färdig! God tur!

I kartan nedan presenteras området som studien omfattar.
To manage and protect the mountain areas we need your help.

Please fill in a card (one card/person) and put it in the slot. Some of you will later receive a questionnaire which we will ask you to complete and return.

Thank you for your co-operation!

Zum Schutz und zur Erhaltung dieser Bergwelt benötigen wir Ihre Hilfe.

Bitte füllen Sie eine Karte (1 Karte pro Person) aus und werfen sie dann in den Einwurf. Einige von Ihnen werden später einen Fragebogen per Post erhalten, den Sie bitte ebenfalls ausfüllen und zurücksenden wollen.

Herzlichen Dank für Ihre Mithilfe!
Studien genomförs av forskningsinstitutet ETOUR (European tourism research institute). Forskningsledare Lars Emmelin är ansvarig för projektet som genomförs av projektledare Tuomas Vuorio. Dina upplysningar är viktiga för förvaltningen av området. Några av er kommer möjligt senare att få tillsänd ett frågeformulär där vi ber er besvara ytterligare frågor.

Om du har några frågor om undersökningen svarar vi gärna.

Tuomas Vuorio
ETOUR
Mitthögskolan
831 25 Östersund
063 - 19 58 37
010 – 218 38 17
tuomas.vuorio@etour.mh.se
Appendix 12

Answers to the given alternatives in question: “What do you think should be done to avoid ware and tare of Södra Jämtlandsfjällen?” The alternatives are put in order according to the share of respondents that had agreed totally with the given management actions.

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Agree totally %</th>
<th>Agree partly %</th>
<th>Either agree or disagree %</th>
<th>Disagree partly %</th>
<th>Disagree totally %</th>
<th>Don’t know %</th>
<th>No answer %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearly inform about sensitivity of nature</td>
<td>78,1</td>
<td>17,1</td>
<td>2,6</td>
<td>0,6</td>
<td>0,2</td>
<td>0,5</td>
<td>0,8</td>
</tr>
<tr>
<td>Fine those who litter or break the regulations in nature reserves/ national parks</td>
<td>60,8</td>
<td>22,6</td>
<td>9,1</td>
<td>2,4</td>
<td>2,3</td>
<td>2,1</td>
<td>0,7</td>
</tr>
<tr>
<td>Biking is allowed only on certain trails and areas</td>
<td>57,2</td>
<td>25,9</td>
<td>6,9</td>
<td>2,9</td>
<td>3,6</td>
<td>2,0</td>
<td>1,5</td>
</tr>
<tr>
<td>Introduce a prohibition of terrain vehicles</td>
<td>46,3</td>
<td>37,3</td>
<td>9,2</td>
<td>3,4</td>
<td>1,3</td>
<td>2,2</td>
<td>0,4</td>
</tr>
<tr>
<td>Riding is allowed only on certain trails and areas</td>
<td>40,2</td>
<td>31,9</td>
<td>12,3</td>
<td>8,9</td>
<td>4,4</td>
<td>1,8</td>
<td>0,6</td>
</tr>
<tr>
<td>Introduce a prohibition of snowmobiles</td>
<td>35,5</td>
<td>25,7</td>
<td>17,1</td>
<td>9,6</td>
<td>6,7</td>
<td>4,6</td>
<td>0,8</td>
</tr>
<tr>
<td>Biking is regulated in certain areas by admittance only with a guide</td>
<td>34,7</td>
<td>23,3</td>
<td>14,1</td>
<td>9,0</td>
<td>11,5</td>
<td>5,6</td>
<td>1,9</td>
</tr>
<tr>
<td>Build footbridges</td>
<td>32,1</td>
<td>32,1</td>
<td>16,5</td>
<td>2,8</td>
<td>2,4</td>
<td>11,7</td>
<td>2,5</td>
</tr>
<tr>
<td>Increase protection of nature in the area</td>
<td>31,5</td>
<td>37,3</td>
<td>20,6</td>
<td>2,7</td>
<td>0,9</td>
<td>5,9</td>
<td>1,0</td>
</tr>
<tr>
<td>Riding is regulated in certain areas by admittance only with a guide</td>
<td>30,1</td>
<td>26,9</td>
<td>15,1</td>
<td>10,4</td>
<td>10,9</td>
<td>5,5</td>
<td>1,0</td>
</tr>
<tr>
<td>Prohibit admittance to the especially sensitive areas</td>
<td>20,0</td>
<td>41,1</td>
<td>15,9</td>
<td>11,8</td>
<td>6,4</td>
<td>3,5</td>
<td>1,3</td>
</tr>
<tr>
<td>Control the number of visitors during sensitive points of time</td>
<td>20,0</td>
<td>37,4</td>
<td>18,9</td>
<td>11,9</td>
<td>6,9</td>
<td>4,2</td>
<td>0,8</td>
</tr>
<tr>
<td>Guide visitors to the marked trails</td>
<td>16,5</td>
<td>35,8</td>
<td>18,8</td>
<td>13,0</td>
<td>12,9</td>
<td>2,0</td>
<td>1,0</td>
</tr>
<tr>
<td>Prohibit camping in certain areas</td>
<td>11,5</td>
<td>33,1</td>
<td>23,0</td>
<td>16,3</td>
<td>12,8</td>
<td>2,7</td>
<td>0,6</td>
</tr>
<tr>
<td>Hiking is regulated in certain areas by admittance only with a guide</td>
<td>6,6</td>
<td>16,4</td>
<td>15,6</td>
<td>15,9</td>
<td>40,0</td>
<td>4,7</td>
<td>0,8</td>
</tr>
<tr>
<td>Allow only a certain number of people to visit an area at the same time</td>
<td>5,2</td>
<td>21,7</td>
<td>24,2</td>
<td>18,8</td>
<td>24,3</td>
<td>5,2</td>
<td>0,7</td>
</tr>
<tr>
<td>Introduce an overnight fee for campers</td>
<td>4,5</td>
<td>12,6</td>
<td>16,1</td>
<td>15,3</td>
<td>47,3</td>
<td>3,4</td>
<td>0,7</td>
</tr>
<tr>
<td>Hiking is allowed only on certain trails and areas</td>
<td>4,3</td>
<td>18,1</td>
<td>15,4</td>
<td>22,5</td>
<td>36,6</td>
<td>2,4</td>
<td>0,7</td>
</tr>
<tr>
<td>Reduce the number of reindeers</td>
<td>4,2</td>
<td>9,1</td>
<td>27,4</td>
<td>15,1</td>
<td>31,5</td>
<td>11,9</td>
<td>0,9</td>
</tr>
<tr>
<td>Close certain trails</td>
<td>2,9</td>
<td>12,7</td>
<td>30,3</td>
<td>20,2</td>
<td>23,4</td>
<td>9,3</td>
<td>1,1</td>
</tr>
<tr>
<td>Introduce an user fee</td>
<td>2,7</td>
<td>7,8</td>
<td>17,9</td>
<td>13,0</td>
<td>53,6</td>
<td>4,2</td>
<td>0,7</td>
</tr>
<tr>
<td>Abolish the right of public access</td>
<td>0,8</td>
<td>3,0</td>
<td>11,4</td>
<td>11,0</td>
<td>70,4</td>
<td>2,7</td>
<td>0,6</td>
</tr>
</tbody>
</table>
Appendix 13

In the following regression analyses (Tables A1-A6), ordinal and ratio scaled variables are standardised due to high degree of skewness. For the activity variable, the base was dual activity, and the coefficients show differences relative to that base. For the tourism income variable, 1=yes and 2=no. For gender, 1=female, 2=male. For education, 1=primary/secondary school, 2=university.

Table A1: Factors explaining resident attitudes toward windpower in Södra Jämtlandsfjällen. Linear regression. Dependent variable: q16 (Level 1)

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>Beta</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>.440</td>
<td>.388</td>
<td>.258</td>
<td></td>
</tr>
<tr>
<td>No. of years lived in municipality</td>
<td>.183</td>
<td>.076</td>
<td>.184</td>
<td>.017</td>
</tr>
<tr>
<td>No. of days in SJ per year</td>
<td>.026</td>
<td>.081</td>
<td>.058</td>
<td>.703</td>
</tr>
<tr>
<td>Place attachment</td>
<td>-.079</td>
<td>.078</td>
<td>-.083</td>
<td>.309</td>
</tr>
<tr>
<td>Activity:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Neither</td>
<td>.449</td>
<td>.352</td>
<td>.092</td>
<td>.204</td>
</tr>
<tr>
<td>- Skiing</td>
<td>-.088</td>
<td>.185</td>
<td>-.037</td>
<td>.635</td>
</tr>
<tr>
<td>Snowmobiling</td>
<td>-.013</td>
<td>.188</td>
<td>-.005</td>
<td>.946</td>
</tr>
<tr>
<td>Income from tourism</td>
<td>.056</td>
<td>.146</td>
<td>.029</td>
<td>.701</td>
</tr>
<tr>
<td>Gender</td>
<td>-.195</td>
<td>.137</td>
<td>-.100</td>
<td>.157</td>
</tr>
<tr>
<td>Education</td>
<td>-.220</td>
<td>.187</td>
<td>-.088</td>
<td>.241</td>
</tr>
<tr>
<td>Income</td>
<td>.044</td>
<td>.074</td>
<td>.044</td>
<td>.555</td>
</tr>
</tbody>
</table>

Model summary

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>R²</td>
<td>.068</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.023</td>
</tr>
<tr>
<td>F</td>
<td>1.516</td>
</tr>
</tbody>
</table>
Table A2: Factors explaining residents' attitudes toward windpower in Södra Jämtlandsfjällen. Linear regression. Dependent variable: q17c (Level 2)

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>Beta</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.675</td>
<td>.197</td>
<td>.000</td>
<td></td>
</tr>
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<td>No. of years lived in municipality</td>
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**Model summary**

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Table A3: Factors explaining residents' attitudes toward windpower in Södra Jämtlandsfjällen. Linear regression. Dependent variable: q17a (Level 3)

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Model summary

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Table A4: Factors explaining residents' attitudes toward national park designation. Linear regression. Dependent variable: q18 ("don't know" set to missing value)

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Model summary

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Table A5: Factors explaining residents' attitudes toward national park designation. Linear regression. Dependent variable: q18 ("don't know" set to missing value)

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Model summary

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<td>10.414</td>
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Table A6: Factors explaining residents' attitudes toward tourism. Linear regression. Dependent variable: average of q23-q26 ("don't know" set to missing value)

<table>
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Model summary

- \( R^2 = 0.065 \)
- Adjusted \( R^2 = 0.023 \)
- F = 1.548, p = 0.133

Description of the segmentation procedure

The first step in a cluster analysis is to select the clustering algorithm used for forming clusters. This is a major question because it may have implications not only for the result that will be obtained but also for the interpretation that can be derived from the results. Clustering algorithms can be classified into two general categories: (i) hierarchical, and (ii) non-hierarchical. However, within these broad categories there is a wide range of procedures (see Hair et al. 1995 for an introduction).

The choice of clustering algorithm is primarily determined by the research problem. The present study is exploratory in its nature since there is no prior expectation of the number of clusters derived or the composition of the clusters. For exploratory problems hierarchical cluster analysis is recommended since it does not require that the
number of clusters be specified in advance of the analysis, as is the case for non-hierarchical procedures. An exploratory hierarchical cluster procedure (the agglomerative average linkage procedure in SPSS) was thus used to develop clusters based on the four attitude variables. Hair et al. recommend using a priori criteria, practical judgement, common sense, or theoretical foundations for choosing the number of clusters. Minimising the merging of non-homogeneous clusters and the intuitive interpretation of the clusters were used as criteria for choosing the cluster solution in this study.

The clustering procedure ended up with a three-cluster solution. The clusters contained 211 respondents (80 respondents were excluded due to missing values on one or more of the clustering variables). The high percentage of excluded respondents can bias results if excluded respondents differ from those that were included. Therefore, cases with missing values were examined to see whether they were associated with characteristics that differed from the cases in the valid sample. Of the ten background variables examined, only one was found to be significant. Respondents in the included sample are more familiar with Södra Jämtlandsfjällen, i.e., they are in the mountains more often than are those excluded due to missing values. Averages are 3.8 and 3.2 days per year, respectively. This was not, however, regarded a major threat to the validity of the analysis.