

# *Tourists' Behaviour and Attitudes in the Northern Part of the Swedish Mountains*

*Sandra Wall*



European Tourism  
Research Institute



**WORKING PAPER**

[www.etour.se](http://www.etour.se)



EUROPEISKA UNIONEN  
Europeiska regionala utvecklingsfonder

ETOUR är ett forskningsinstitut som utvecklar kunskap om turism och resande. ETOUR har tre huvuduppgifter; att forska om turism, att analysera statistik om turism och att sprida forskningsresultaten till turistnäringen.

**ETOUR**

European Tourism Research Institute  
Mithögskolan  
831 25 Östersund  
Tel 063-19 58 00  
Fax 063-19 58 10  
E-mail [info@etour.se](mailto:info@etour.se)

ISSN 1650-4623, URN:NBN:se-2003-40



## Sammanfattning

### Bakgrund

Behovet av turism- och friluftslivsforskning är stort. Kunskap om besökarna är relevant för förvaltare av natur- och kulturområden samt för turistindustrin. För att förstå turismens effekter och påverkan på naturen, kulturen och samhället är det viktigt att ha fakta om besökarnas aktiviteter, rörelsemönster, motiv till besöket, upplevelser och attityder till natur- och kulturlandskapet samt till förvaltning. I denna rapport presenteras ett påbörjat forskningsprojekt om besökare i norra Lapplandsfjällen. En första undersökning genomfördes 2002 bland besökare till fyra turistanläggningar i Torneträskområdet och några av resultaten redovisas i denna rapport. Datainsamlingen har skett genom postenkäter till ett urval av hotellgästerna. Undersökningen ingår som en del i en doktorsavhandling.

### Syften och mål

I rapportens första del presenteras avhandlingens syften och datainsamlingsmetoder samt en kort områdesbeskrivning med fokus på turism och natur- och kulturskydd. Den andra delen av rapporten syftar till att öka kunskapen om vem som besöker turistanläggningarna i Torneträskområdet. Vidare studeras besökarnas aktiviteter och motiv till deras besök samt besökarnas upplevelser av naturen och attityder till förvaltning.

### Resultat och slutsatser

Resultatet av undersökningen i Torneträskområdet 2002 visar bland annat att:

- *Besöken är ungefär lika fördelade över vår- vintern och sommaren, däremot kommer det få besökare från oktober till januari.*
- *En stor andel av besökarna kommer från södra Sverige; nästan en tredjedel kommer från Stockholms län. Ungefär 15% kommer från Norrbottens län.*
- *Hälften av alla besökare åker tåg till området, vinterbesökarna åker tåg i större utsträckning än sommarbesökarna. Övriga använder bil eller flyg.*
- *Torneträskområdet har en stor andel med återkommande besökare från år till år (50% av respondenterna hade tidigare varit i området).*
- *Under vår-vintern är den populäraste aktiviteten utförsåkning (77%), följt av endagsturer på skidor (34%). På sommaren ägnar sig 64% åt endagsvandringar och 20% åt flerdagsvandringar.*
- *En majoritet av besökarna besöker tätorterna Kiruna och/eller Narvik under vistelsen.*
- *När det gäller motiv för besöket har naturupplevelser och nationalparker stor betydelse för vandrarna, medan utförsåkarna inte i lika stor utsträckning anser att dessa motiv är så viktiga.*
- *Störande ljud upplevs av 33% av vinterbesökarna som ett problem (ungefär hälften av alla turskidåkare anser att det förekommer störande ljud och då främst från snöskotrarna).*
- *Två tredjedelar av flerdagsvandrarna respektive flerdagsturåkarna kan klassificeras som purister och har därmed mer radikala attityder gentemot naturförvaltning än andra besökargrupper.*

## **Abstract**

This presentation will introduce a newly started research project on tourism in the mountains of Northern Sweden. The area is characterized of nature preservation, besides reindeer herding and tourism. The aim of the project is to collect a year-round baseline information on visitor characteristics, motives, patterns of activities and visitors' attitudes within the area. The study will analyse the importance of protected areas and the World Heritage Site Laponia for tourism development. A questionnaire was conducted in the end of 2002 and in the beginning of 2003, and some of the results will be presented. During the summer of 2003 there will be a distribution of self-registration cards in the area, followed by posted questionnaires. Other methods are interviews and data collection from digital counters. Some parts of the results will be compared with other studies in the Swedish Mountains and in other World Heritage Sites.

**Keywords:** Nature tourism, Tourists' behaviour, National parks, World Heritage Sites, Laponia, Lake Torne Area.

## **Contents**

<b>Abstract</b>	4
<b>Contents</b>	5
<b>Introduction</b>	6
<b>Purpose</b>	7
<b>Data collection</b>	8
<b>Tourism, protected areas and designations</b>	8
<b>The Lake Torne Area – a survey summary</b>	10
Seasonality	11
Visitor characteristics	12
Activities undertaken	13
Reasons for visiting the Lake Torne Area	14
Views and attitudes on environmental damage	16
- Litter	
- Wear	
- Disturbing noise	
The wilderness purism scale	16
Final words	17
<b>References</b>	18
<b>Acknowledgements</b>	20
<b>Appendix: Questionnaire 2002, the Lake Torne Area</b>	21

## Introduction

This research project focuses on tourism in the peripheral areas of the northern Lapland Mountains in Sweden. The study area is located in the county of Norrbotten and in the local communities of Kiruna, Gällivare and Jokkmokk (Figure 1). As well as several national parks and nature reserves, the test area covers a UNESCO declared World Heritage Site with both natural and cultural qualities and a Biosphere Reserve. The Lapland Mountains have been inhabited by the Sami peoples since prehistoric times, and today reindeer herding is being kept in the whole area. This environment is also a popular tourist region. The Lapland region is for many people in Sweden ‘the Swedish tourist destination of their dreams’ (Svensk and Holmström 2003).

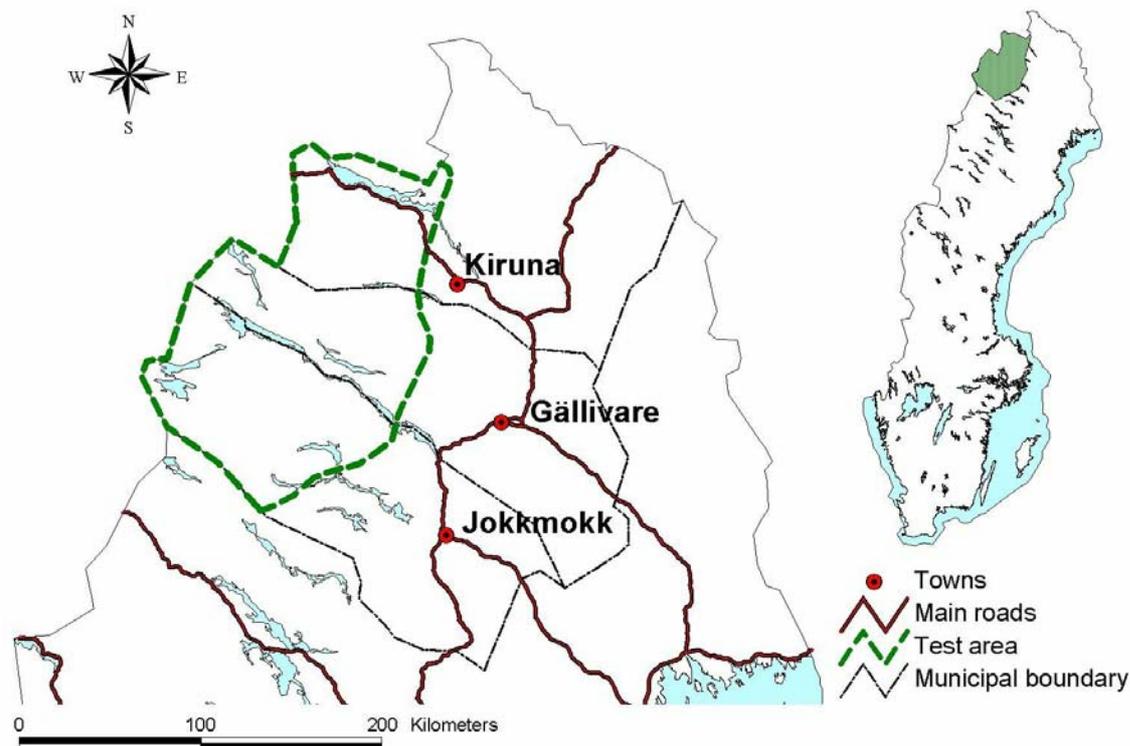


Figure 1. The location of the study area.

Most mountain areas of Europe are predominantly rural, and so also the Lapland Mountains, and many have been subject to significant changes in their social and economic structures in recent decades. Decline in the primary sector and growth in demand for services associated with the countryside (e.g. recreation and tourism activities) have encouraged a growing emphasis by policy-makers on employment provision in the tertiary sector.

“Tourism has acquired a central position in thinking about the future of rural, upland and mountain economies across Europe /.../. Many upland and mountain areas are remote and disadvantaged but can, nonetheless, provide specific tourism opportunities due to the high quality of their natural environments. Such opportunities have been promoted as important means of arresting further decline in the /.../ structure of local populations of rural areas.” (Snowdon, Slee and Farr 2000, p.138)

Although tourism may be attractive as a means of economic development, its environmental impacts on the ecosystems and its impacts on the local people’s traditions and culture are issues of serious concern. There is a great need of information on recreation and tourism in mountain regions (see e.g. Heberlein, Fredman and Vuorio 2002 and SOU 1995:100 Hållbar

utveckling i landets fjällområden 1995). To be able to understand the tourism's effects and impacts, it is of great importance to have facts about tourists' activity pattern, experiences and attitudes towards the natural and social environment and the management. These questions are relevant to officials and planners at the national, regional and local level, and to the tourism industry.

## **Purpose**

This paper will only shortly describe the structure of the research project and the paper will later be part of a thesis. The purpose is to document and analyse tourism development and conflict of interests as well as strategies for tourism and sustainability in the northern part of the Lapland Mountains. The study will also investigate the importance of the national parks, the Biosphere Reserve and the World Heritage Site for tourism development.

One of the aims is to collect baseline information on visitor characteristics, motives, patterns of activities and visitors' attitudes and experiences within the area. With this information it will be possible to make comparisons with earlier work in the area as well as with other studies in the Swedish Mountains (e.g. Bäck 1986, Heberlein, Fredman and Vuorio 2002, and Vuorio 2003). The main question is: *Which expectations, experiences and attitudes do the visitors have towards the area, as well as towards planning and management?* Another important issue is of course to study how the development over time looks like and what we can say about the future.

Man uses the land for several purposes in the region and the land-use has thereby a functional meaning. If the different parts use the same land and at the same time, or if one of the partner, or both, change their behaviour, conflicts can arise (Abrahamsson 1984). In the test area the summer pastureland for the reindeer herding coincident with the hiking season, so the use of the land for the two groups (the reindeers and the hikers) is simultaneous, both in space and time. The research project will focus on this conflict of interest and an analysis of the frequency of hikers and their behaviour and the movement of the reindeer herd will be carried out.

The county of Norrbotten has been working on a management plan for the Laponian Area. The management plan contains the administrative directions for the area. *Which are the guidelines for a sustainable tourism development in the management plan and how can tourism development be compatible with other interests?* This research project aims to study tourism in relation to a sustainable development; especially regarding the indigenous peoples and the nature protection. Therefore, another objective is to make a comparative analysis between two World Heritage Sites; the Laponian World Heritage and one of the World Heritage Sites that has been declared both for its nature and its culture and also is being inhabited by indigenous peoples (e.g. in Australia and New Zealand). *What can the Laponian Area learn from other World Heritage Sites? Are there any parallels with regard to tourism development?*

## **Data collection**

The main data collection is from posted questionnaires to the area's visitors. A first survey was conducted in 2002 among people visiting the Lake Torne Area during the year 2002. A questionnaire was sent to a selection of visitors at four different hotels in the Lake Torne Area (see further down; *The Lake Torne Area – a survey summary*).

During the summer 2003, 6,500 registration cards were distributed in the whole test area at 13 different mountain stations and mountain lodges. The visitors were requested by the staff to fill in the registration card with name, address and to answer some short questions. About 1,000 persons will be randomly selected and later receive a posted questionnaire.

Data collection from digital counters will be used as a method of counting visitors in the area. This method must at this stage be seen as a method study. Two digital counters have been put up in the summer 2003 in the north-western part of the Laponian Area to count people along two different trails. Both trails can be seen as access points or terminal points for hikers along the *Padjelanta trail*. The counter consists of a radio transmitter and receiver, and operates by detecting the change in radio signal as a person walks between them. If this method will have a successful result, several digital counters will be distributed over the area next summer (2004).

Qualitative interviews are useful, both as a complement to the quantitative data collection and to receive information on attitudes and experiences. Not only tourists will be interviewed, but also tourist entrepreneurs and Sami involved both in reindeer herding and in tourism.

## **Tourism, protected areas and designations**

Tourism in the Lapland Mountains began in the 1880's, although in a modest scale. Development of the communication network to the region, maps of and travel books on the region and improvements of the infrastructure in the region (establishments for overnight stops, trail markings etc.) were important factors behind the expansion of tourism at the end of the nineteenth century and the beginning of twentieth century. The Swedish Touring Club (Svenska Turistföreningen, STF) was of great importance for the development of mountain tourism. (Bäck 1986)

Tourism increased by 10 % per year in the mountains of Norrbotten from the 1950's and to the middle of 1970's. After the road construction was completed in 1984 between Kiruna and Narvik, there was an increase in number of tourists staying over night along the road. But, in the 1990's, when the road no more attracted curious tourists, the number of tourists started to decrease. (Bäck 2002)

The national parks were established during the beginning of last century. The national parks of Abisko, Sarek and Stora Sjöfallet were set up in 1909, and Vadvetjåkka in the far north-west of the Lake Torne Area in 1920. The latest chosen national park in the area is Padjelanta, in 1963. (Bäck 2002) During 1980's, there was a debate concerning the possibilities of establishing a large national park, including the Lake Torne Area and the surroundings of Sweden's highest mountain Kebnekaise. If established, it would have been one of the largest national parks in Europe. In the plan for the proposed national park, there was a designation of zones in order to separate different types of recreation and protection requirements (Sandell 1995). Perhaps the establishing of a national park in the Kiruna Mountains will be in question

in the future. None of the already established national parks in the area are planned after a zoning model.

In 1986, the Lake Torne Area was designated by UNESCO as a *Biosphere Reserve* within the research programme; the *Man and Biosphere Programme* (MaB). The most important issue for the programme is to answer the question: *How can we use the nature resources and at the same time preserve them?* The purpose with the reserve is to preserve biodiversity and to develop the area in a sustainable way. The research projects within the Lake Torne Biosphere Reserve are almost exclusively natural-scientifically orientated, except for studies on tourism and its effect on the environment. (Thorell and Forskningsrådsnämnden 1999)

The World Heritage Site Laponia is located further south in the test area and comprises 9,400 square kilometres of great geological, ecological, and cultural value with magnificent scenery.

“The Laponian area is Europe's largest continuous area of virtually untouched nature. It has steep mountain massifs and extensive mountain plains, glaciers, mires, and primeval forests, torrential waterfalls and large mountain lakes. In addition, it has a rich animal and plant life, with several endangered species.”  
(<http://www.raa.se/varveng/lapplande.asp>, 2003-07-31)

Laponia was inscribed on the World Heritage List in 1996 with regards of the natural and the cultural qualities. Laponia consists of the four national parks of Muddus, Sarek, Padjelanta, and Stora Sjöfallet, and the nature reserves of Sjaunja and Stubba with the adjacent areas of Sulitelma, Tjultodalen, and Rapadalen. (Länsstyrelsen i Norrbottens län 2001) This research project only investigates the mountainous parts of Laponia, therefore are not Muddus, Stubba and large parts of Sjaunja included in the project.

Laponia is the cultural landscape of the Sami peoples and is one of the best preserved examples of a nomadic area in northern Scandinavia. Today, seven Sami villages lie within the World Heritage Site and several Sami summer villages are located in the pastureland. Reindeer herding is the most important industry in the area, but in times of rationalised and modernised reindeer herding, many Sami have started to take part in tourism development. (<http://www.raa.se/varveng/lapplande.asp>, 2003-07-31, and Pettersson 2001) Many people (for example the tourist entrepreneurs and the local communities) hope that the fact that the area has become a World Heritage Site will lead to an increased tourism in the area.

The test area varies regarding tourism activities, infrastructure and accessibility. On the south shore of the Lake Torne both the railway and the highway are located. Also several touristic establishments are located there, and in the village of Abisko about 200 people live permanently (Thorell and Forskningsrådsnämnden 1999). The tourism activities are related to the establishments to a very high extent.

The Kebnekaise Area and the Laponian Area are places difficult of access; neither highway nor railway run through the areas. Though, it is possible to travel to the areas by car and by bus in the summer time. The tourism activities are not at all to the same extent related to the tourist stations, as in the northern part of the test area.

## The Lake Torne Area – a survey summery

This text summarises facts about tourism from a study in the northern part of the Swedish Lapland Mountains, in the county of Norrbotten. The aim of the survey was to collect year-round baseline information on visitor characteristics, patterns of activity, motives, and visitors' attitudes within the Lake Torne Area (Torne Träsk).

A survey was conducted between November 2002 and February 2003 among people visiting the Lake Torne Area during the year 2002. The survey thus included both summer and winter visitors. The respondents were selected at random from four hotel registration books: Riksgränsen, Björkliden, Abisko Tourist Station and Camp Abisko (see Figure 2). A questionnaire was sent to 721 Swedish visitors and 142 visitors from Norway, Finland, Great Britain and Germany, a total of 863 persons. The response rate was 67.1% (70.1% from Sweden and 52.2% from outside Sweden).

Apart from the hotels, selected for this study, there is other accommodation in the area, for example youth hostels and caravan parking places. This study includes only visitors who were registered at any of the four selected hotels. It does not include day visitors to the area, nor visitors passing through, nor people who began or completed their several-day hikes or several-day cross-country ski trips without staying at one of the selected hotels.

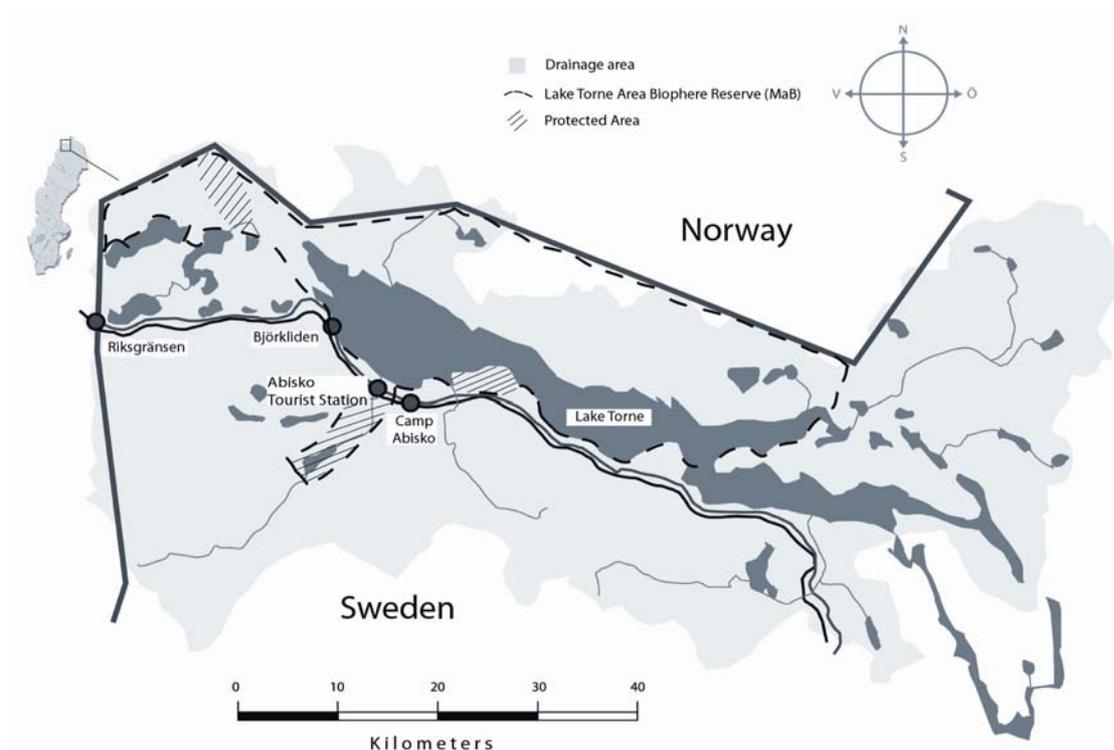


Figure 2. Map over the Lake Torne Area.

Parts of the Lake Torne Area are designated as a *Biosphere Reserve*. The area is part of UNESCO's *Man and Biosphere (MaB) programme*. The purpose with the reserve is to preserve biodiversity and to develop the area in a sustainable way. Supporting education, monitoring and research are other main goals. The Biosphere Reserve is located in the northern part of Sweden, and several protected areas are included in the Biosphere Reserve; two national parks and three nature reserves. The Lake Torne Area Biosphere Reserve is 96,500 hectares and consists of mountains, valleys, meadows and lakes. The landscapes are

characterized by subarctic mountain birch forest and alpine and subalpine heaths. (<http://www.laketornebr.org>, 2003-07-08)

Tourism is economically important in the region. During the year 2002 the number of guests staying overnight at Riksgränsen was 16,500 persons, at Björkliden the number was 40,000, and at Abisko Tourist Station 34,000. Camp Abisko had 5,700 guest nights. (According to information given by the establishments; telephone call, 2003-06-17, and e-mail, 2003-07-18)

## Seasonality

Visits to the Lake Torne Area are relatively evenly distributed over the year. According to the questionnaire data, some 50% of all visits were during the summer time (June to September) whereas the winter visits (January to May) represented approximately 45%. Only a small share of all visits was in October, November and December, see Table 1.<sup>1</sup>

*Table 1. Number and percentage of respondents in the Lake Torne Area in the 2002 survey.*

Winter and summer season 2002	Number of respondents	Percent
Winter visits: Jan.-May	248	45,6
Summer visits: June*-Sept.	274	50,4
October-December	22	4
Number of respondents	544	100

\*In Riksgränsen, June can be seen as a winter month.

Figure 3 (see below) shows the seasonal differences in percent of all visits in the Lake Torne Area. As can be seen, April (19% of all visits) is the most popular winter month and July (19%) is the most popular summer month. October, followed by November, December and January, is the very low season in the area.<sup>2</sup>

<sup>1</sup> The survey results can be compared with a national study concerning mountain tourism in Sweden, "Current Tourism Patterns in the Swedish Mountain Region", in *Mountain Research and Development*. The national survey found that most of the visitors come during the summer in the county of Norrbotten, whereas winter tourism dominates in the southern mountain region. In the Swedish mountain region as a whole, about 4% of all visits take place in May, October and November. (Heberlein, Fredman and Vuorio, 2002)

<sup>2</sup> According to the national survey, April has 12% of all visits in the county of Norrbotten and July stands for 29% of all visits. (Heberlein, Fredman and Vuorio, 2002)

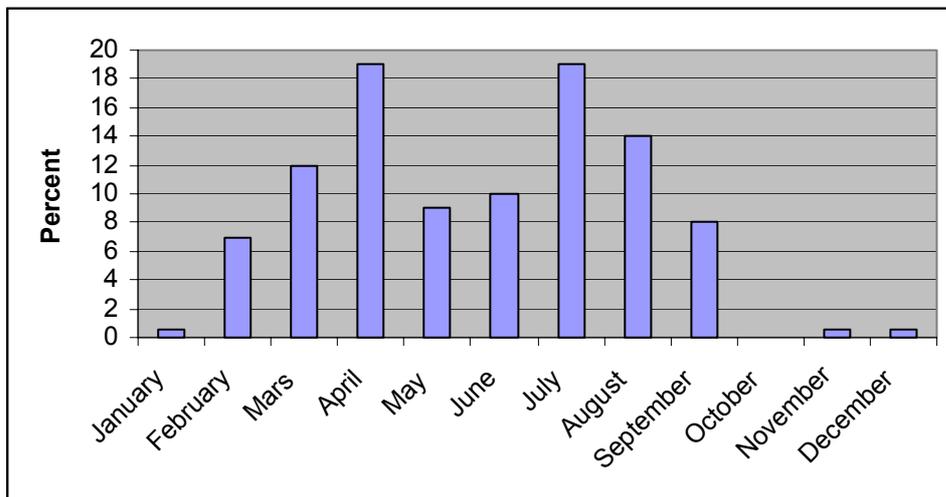


Figure 3. Seasonal tourism pattern in the Lake Torne Area, showing the percentage of annual visits per month.

### Visitor characteristics

About 13% of the respondents came from abroad, and half of those were from Norway. The Swedish respondents represent all the Swedish counties. However, only the counties of Stockholm (28.9%), Norrbotten (14.7%), Västra Götaland (8.5%), Skåne (5%) and Uppsala (4.4%) show any significant number of visitors. Except for the county of Norrbotten, these counties also have the largest populations. Almost one third of the visitors to the Lake Torne Area came from the county of Stockholm.

About 60% of the respondents of the questionnaire were men. The mean age of the respondents was 46 years old. Two pikes in the age distribution can be found, the ones between 30 and 34 years old, and the ones between 40 and 60 years old. Noteworthy, about 5% of the respondents were over 70 years old.

A very high proportion of all visitors (40%) had studied longer than to a University bachelors degree and another 20% had a bachelor's degree. Only 5% of the respondents indicated compulsory schooling as their highest level of education. The Lake Torne Area has a high share of return visits. Half of the number of the respondents visited the area in the period 2000-2001, and as many as 56% made a visit in the period 1995-1999. Two out of five had visited the area sometime during the years of 1985-1989, and one third had visited the area before 1984 (the year the road construction was completed in the area).

The train was the dominating means of transportation from the respondents' home to the Lake Torne Area. A total of about 50% went to the area by train. One third of the respondents used the own car, and about one out of four took the plane as a means of transportation.<sup>3</sup> The train was dominating for both winter and summer visitors, but in a greater extent for the winter visitors. Many more of the summer visitors went by car, their own car or rental car, than the winter visitors did.<sup>4</sup>

<sup>3</sup> In the questionnaire it was possible to mark more than one alternative.

<sup>4</sup> To travel by train to the area takes about 18 hours from Stockholm. There is an airport in Kiruna (96 kilometers from Abisko) and the travel time by plane from Stockholm to Kiruna is 2 hours.

## Activities undertaken

The questionnaire contained one question that required the respondents to indicate which of 14 activities they engaged in during their trip. They could also add other activities. In considering cross-country skiers and hikers, those who made day trips were separated from those who made overnight/several-day trips. During the year 2002 the most popular activity among all visitors, was downhill skiing, followed by one-day hikes, and day trips on cross-country skis, and finally several-day hikes. More than half of the respondents visited Kiruna and Narvik. Table 2 features different activities and presents how many people pursued each activity.

*Table 2. The respondents' activities during 2002 and distribution by season. (It was possible to mark more than one alternative.)*

Activity	Winter		Summer	
	N	%	N	%
Downhill skiing	192	77.4	15	5.5
Day trips on cross-country skis	85	34.3	7	2.6
Several-day trips on cross-country skis	22	8.9	2	0.7
Snowmobiling	28	11.2	2	0.7
Dog sledding	4	1.6	1	0.4
One-day hikes	24	9.7	176	64.2
Several-day hikes	5	2.0	57	20.8
Hunting	0	0	0	0
Fishing	6	2.4	12	4.4
Berry or mushroom picking	3	1.2	13	4.7
Visit to Kiruna	32	12.9	98	35.8
Visit to Narvik	56	22.6	117	42.7
Helicopter trip	8	3.2	5	1.8
Arranged theme week	6	2.4	5	1.8
Other activities	37	14.9	79	28.8
Number of respondents	248		274	

In the survey, 77% of the winter visitors were active downhill skiers. 34% went on day trips on cross-country skis, almost 9% went on a several-day trip on cross-country skis and 11% went snowmobiling.<sup>5</sup> The respondents were asked to point out the most important activity during their visit to the Lake Torne Area. Approximately 65% of the winter visitors answered that downhill skiing was their main activity, almost 15% answered that day trips on cross-country skis were the main activity and about 8% said that several-day trips on cross-country skis were the main activity.

Day hikes are much more popular than several-day hikes in the summer. Three quarters of all hikers went on day hikes but there were considerably many more several-day hikers in summer than several-day cross-country skiers in the wintertime. Some 20% of the summer

<sup>5</sup> The national survey of mountain tourism in Sweden performed by Heberlein, Fredman and Vuorio, 2002, shows that 50% of the visitors to the county of Norrbotten during the winter were downhill skiers, about 20-25% went on day trips on cross-country skis, respectively snowmobiling and angling, whereas 8% went on several-day trips on cross-country skis.

visitors went on a several-day hike<sup>6</sup> and 65% went day hiking. Fewer than 5% went fishing and the same low share of the summer visitors picked berries or mushrooms.

A majority of the summer visitors (53,5%) considered day hikes to be the most important activity, that is their main activity. Among the summer visitors, 22% thought that several-day hikes were the most important activity. Even in June it is possible to perform some winter activities in the high mountains, especially along the border between Sweden and Norway. The results therefore present some winter activities among the summer visitors, 7.5% of the summer visitors considered downhill skiing, cross-country skiing and snowmobiling to be their main activity.

## **Reasons for visiting the Lake Torne Area**

According to the survey data, the most important motive when deciding to visit the area was to experience the nature of the area. The respondents were to indicate factors which were the least and the most important to them in visiting the Lake Torne Area. For each statement they were asked to circle a number between one and five. The visitors identified a range of reasons for visiting the area. Approximately 70% of the respondents thought that their experiences of the nature were of the most importance. Among those who had been hiking, about 90% answered that the nature experiences were of most importance, but only 45% of the downhill skiing tourists chose the same alternative. To be able to experience the nature is a very significant feature in deciding to travel to the area.

On the contrary, the results show that the national parks have very little importance when the tourists decide to go to the area. Almost half of the respondents answered that the national parks are of the least or little importance. Here, we also find some distinctions between different kinds of activity groups. The hikers regard the national parks as more important than the downhill skiers and the cross-country skiers.

The importance or non-importance of the national parks can also be seen in terms of season. People who came to the area in the summer seem to appreciate the parks much more. Table 3 features the importance of experiences of nature and the importance of visiting the national parks as reasons for coming to the area. Half of the respondents of the winter visitors (46.8%) and three quarters of the summer visitors (74.1%) answered that the experiences of nature were of the most importance. As stated above, summer visitors appreciate the national parks more, and 15.3% of them pointed out that the parks were of the most importance when deciding to visit the area. Only about 2% of the winter visitors marked the same alternative.

---

<sup>6</sup> The national survey about mountain tourism, presents that 33% of the summer visitors in the Swedish mountains went on a several-day hike. (Heberlein, Fredman and Vuorio, 2002)

Table 3. Two reasons for visiting the area; experiences of nature and national parks. Percentage of total answers from each season.

	Experiences of nature				
	1 <i>Least important</i>	2	3	4	5 <i>Most important</i>
Winter visits January – May	0.8	1.2	7.7	36.3	46.8
Summer visits June – Sept	0.4	0.7	2.6	14.2	74.1

	Visits to national parks				
	1 <i>Least important</i>	2	3	4	5 <i>Most important</i>
Winter visits January – May	36.3	17.3	19.4	7.3	2.4
Summer visits June - Sept	12.4	13.1	20.4	14.6	15.3

Although few of the hikers, the downhill skiers and the cross-country skiers believed that the national parks had little importance as a reason to visit the area, as many as 70% of them agreed partly or agreed completely that there should be more nature reserves and national parks in the mountains.

When deciding to travel to the Lake Torne Area, the question of transport to and from the area was vital to a majority of all the visitors. Even more important was the availability of hotel accommodation and service.

The respondents were asked if they knew before coming to the area, that parts of the area were part of a *Biosphere Reserve (MaB)*. The results show that one of eight (13%) knew about the Biosphere Reserve. Visitors from other countries than Sweden knew more about it than the Swedish respondents did; 42% of visitors from abroad as compared with 8.7% of the Swedes. Among those who had knowledge about the Biosphere Reserve, almost 90% answered that it had *not* affected the decision to visit the Lake Torne Area. One third of the respondents considered the area to be more attractive because of it being named a Biosphere Reserve, the rest answered that it is of no importance that the area is a Biosphere Reserve. Those who thought that the area had become more attractive believed that a focus on a sustainable development and protection of the area against mass tourism is positive. It was also considered important to avoid further exploitation and to preserve the character and the unique qualities of the area, both naturally and culturally.

## **Views and attitudes on environmental damage**

### **Litter**

Few of the respondents thought that there were any significant amounts of litter in the surroundings. No significant difference can be found between winter and summer visitors. Yet, 23% of the several-day hikers said that they found more litter than did the downhill skiers (13%), the cross-country skiers (16% of one-day trips and only one person who went on a several-day trip) and the one-day hikers (7%).

### **Wear**

Approximately 16% of the winter visitors and 23% of the summer visitors considered that there was significant wear of the natural surroundings in the area. But the survey population differ between different activity groups. About every third person among those who went on a day trip on cross-country skis and among the several-day hikers thought that there were significant wear on the natural surroundings. The corresponding figure was approximately 15% among downhill skiers, and 22% among several-day cross-country skiers, and 23% for the one-day hikers. To a question in the questionnaire regarding the tourists' wear on the foliage in the mountains, half of all respondents agreed partly or completely that it is a problem.

### **Disturbing noise**

Visitors who took part in winter activities, experienced more noise than the summer visitors. Among the winter visitors, 33% were of the opinion that there was disturbing noise in the area. 52% of the one-day cross-country skiers and over 45% of the several-day cross-country skiers said that they experienced disturbing noise in the Lake Torne Area. The most disturbing noise came above all from the snowmobiles, and to a certain extent from the helicopters and the railway. Contrary, only about 12% of the summer visitors thought there was disturbing noise in the area.

## **The wilderness purism scale**

As a classification model, a wilderness purism scale was used in the study. This scale is one of many ways to classify the visitors' attitudes toward nature management. The purism scale can be used by the management or by the nature protection authority, as well as by the tourism industry as a means of studying different visitor segments. The purism scale has been used in other mountain regions in Sweden, for example in Södra Jämtlandsfjällen and in Fulufjäll (see Vuorio 2003, and Hörnsten and Fredman 2002).

In the questionnaire, the respondents were asked for their opinions and attitudes in eighteen statements concerning what should be permitted in the mountains, and how the visitor wishes to experience nature, and how nature should be managed. The respondents were divided into three groups; 'purists', 'neutralists' and 'urbanists', according to their answers. Strictly, the purists like to be there without restrictions, meet few other tourists, and nature should have a low impact of human actions. The urbanists, on the other hand, want to meet other people; they like to have different kinds of services in the nature area, and to them the use of motor vehicles in nature mean no disturbance. The neutralists are the people with attitudes between the two extremes.

Each of these eighteen questions was constructed as a scale ranging from -2 to 2, where -2 represents 'not at all important' and 2 'very important'. The scale was adjusted to fit prior expectations about the three categories; the purists got the highest point and the urbanists the lowest. These three categories were identified after summing the points for all the questions

across the respondents, and calculating the sample mean and the standard deviation. The purists were identified as individuals who had a score higher than or equal to the mean plus one standard deviation, while the urbanists were identified as those who had a score lower than or equal to the mean minus one standard deviation. (Fredman 2000)

According to the survey, the three different classification groups stand for one third of the respondents, respectively (Table 4). To be able to identify the most extreme purists and urbanists, the classification should be performed by one standard deviation. The result then shows that 15.6% of the visitors in the Lake Torne Area are purists, and about the same percentage are urbanists. Because of the modest number of respondents in the two extreme groups when 1 standard deviation is used, this presentation will use the 0.5 standard deviation.

*Table 4. The purism scale classification of visitors in the Lake Torne Area 2002. Percentage and number of respondents in parenthesis.*

Standard deviation	Classification groups	Percentage of all respondents
0.5 std	Purists	31,4 (159)
	Neutralists	34,0 (172)
	Urbanists	34,6 (175)
1 std	Purists	15,6 (79)
	Neutralists	69,2 (350)
	Urbanists	15,2 (77)

The percentage of purists differs between different activity groups. The several-day hikers have the most radical attitudes, and also the several-day cross-country skiers and in a certain extent also the one-day cross-country skiers. Two thirds of all people who went on a several-day hike can be classified as purists, and almost as many among the visitors who made a several-day trip on cross-country skis are purists. The corresponding proportion of purist visitors who made one-day trips on cross-country skis was nearly 50%. The greatest proportion of urbanists was to be found among the one-day hikers and the downhill skiers (nearly 35% respectively).

In the survey, some differences can be found between men and women's attitudes according to the wilderness purism scale. There are more of extremes among men, than among women. The share of the purists among men was 34.8%, and the share of the urbanists was 37.5%. The proportion of purists and neutralists among the women was below 30% respectively. Nearly 45% of the women were neutralists.

## **Final words**

The population of this study has of course a certain characteristic and may differ from the total tourist population in the Lake Torne Area, since it does not include visitors who did not stay one night or more at one of the four selected hotels. This study shows that the visits to the area are evenly distributed over the year. This means that the touristic establishments do not have a considerable seasonality problem, though very few visitors come in October, November and December. A very significant number of visitors come from the southern parts of Sweden, which affect the choice of means of transportation. Many people travel to the area by train. The question of transportation to and from the area is very important to a majority of all visitors while deciding to go to the Lake Torne Area or not. These facts support a co-operation between the train companies and the touristic establishments in the area.

Although the area has undergone some big changes during the last 20 years (such as road construction, expansion of the touristic establishments and motorised activities), a high share of the visitors returns to the area. The interpretation should therefore be that many people are satisfied with the area, its' establishments and supply of activities.

During wintertime, the downhill skiing tourists dominate. This activity group does not regard the nature experiences and the national parks as very important motives for coming to the area, at least not in the same extent as the other activity groups. The downhill skiing visitors are very *activity committed*. The nature experiences are much more important to the summer visitors and especially to the hikers, you could say that the hikers are more *place attached* than the downhill skiers.

The tourists' wear on the foliage in the mountains and disturbing noise, are two problems that the management authority and the tourism industry must deal with in the immediate future. The cross-country skiers are the ones that experience most disturbing noise, especially from the snowmobiles.

The wilderness purism scale can be used by management, planning and nature protection authorities, as well as by the tourism industry. Zoning the nature area into different zones is one example of meeting different visitors interests and wishes. The zones then have different principles of what should be allowed and what kind of services there should be. In the Lake Torne Area, many of the several-day hikers and the cross-country skiers are purists according to their opinions and attitudes towards the nature management of the area.

## References

Abrahamsson, K-V. (1984), Ekosystem, turister eller olja – om markkonflikter i nordliga områden. In *Ymer 1984*. Svenska Sällskapet för Antropologi och Geografi. Stockholm.

Bäck, L. (2002), Friluftslivet i norra Lapplandsfjällen. In *Bergen i fokus, Ymer 2002*. Eds. Bäck, L. and C. Christiansson. Svenska Sällskapet för Antropologi och Geografi. Stockholm, pp. 152-167.

Bäck, L. and E. Bäck (1986), *Effekterna av ett vägbygge – väg 98 mellan Kiruna och Riksgränsen. En studie av friluftslivet i Norrbottenfjällen 1979-1985*. Acta Universitatis Upsaliensis, No. C 52. Uppsala.

Fredman, P. (2000), *Environmental Valuation and Policy: Applications in the management of endangered species, recreation, and tourism*. Acta Universitatis Agriculturae Sueciae, Silvestria 136. Umeå.

Heberlein, T.A., P. Fredman and T. Vuorio (2002), Current Tourism Patterns in the Swedish Mountain Region. In *Mountain Research and Development*, Vol. 22, 2002:2, pp. 142-149.

Hörnsten, L. and P. Fredman (2002), *Besök och besökare i Fulufjället 2001 –En studie av turismen före nationalparksbildningen*. European Tourism Research Institute (ETOUR), U 2002:6. Östersund.

Länsstyrelsen i Norrbottens län (2001), *Laponia Lapplands världsarv*. Ed. Jessica Lindström Battle. Länsstyrelsen i Norrbottens län. Luleå.

Pettersson, R. (2001), *Sami Tourism – Supply and Demand. Two Essays on Indigenous Peoples and Tourism in Sweden*. European Tourism Research Institute (ETOUR), V 2001:8. Östersund.

Sandell, K. (1995), Access to the 'North' – But to What and for Whom? Public Access in the Swedish Countryside and the Case of a Proposed National Park in the Kiruna Mountains. In *Polar Tourism: Tourism in the Arctic and Antarctic Regions*. Eds. Hall, C.M. and M.E. Johnston. John Wiley and Sons. Chichester, pp. 131-145.

Snowdon, P., B. Slee and H. Farr (2000), The Economic Impacts of Different Types of Tourism in Upland and Mountain Areas of Europe. In *Tourism and Development in Mountain Regions*. Eds. Godde, P.M., M.F. Price and F.M. Zimmermann. CABI Publishing, Wallingford, pp.137-155.

*SOU 1995:100 Hållbar utveckling i landets fjällområden* (1995). Betänkande av Miljövårdsberedningen. Miljödepartementet. Stockholm.

Svensk, G. and A. Holmström (2003), *Svenskarnas framtida resande – bokade, planerade och drömmesor i Sverige och till utlandet*. European Tourism Research Institute (ETOUR), U 2003:11. Östersund.

Thorell, M. and Forskningsrådsnämnden (1999), *Biosfärområden i Sverige*. Forskningsrådsnämnden. Stockholm.

Vourio, T. (2003), *Information on recreation and tourism in spatial planning in the Swedish mountains –methods and need for knowledge*. Department of Spatial Planning Blekinge Institute of Technology, Licentiate Dissertation Series 2003:03 and European Tourism Research Institute (ETOUR), V 2003:12. Karlskrona.

Internet: <http://www.laketornebr.org>, 2003-07-08.  
<http://www.raa.se/varveng/lapplande.asp>, 2003-07-31.

E-mail: 2003-07-18, Abisko Tourist Station.

Telephone call: 2003-06-17, Camp Abisko, Björkliden and Riksgränsen.

## **Acknowledgements**

I would like to thank Stefan Göransson for the hard work with the questionnaires and Andreas Holmström for introducing me to the SPSS. I would like to thank Peter Fredman for helping me with the wilderness purism scale and for relevant opinions and comments. I would like to thank Lennart Bäck for introducing me to the topic and for support and comments during the work progress. I would also like to thank Rosemarie Ankre and Malin Zillinger for reading the paper and having relevant and interesting opinions. The 'Nature and Culture Programme' at ETOUR was of great help in the formulation of the questionnaire. Caroline Persson helped me with my English, thank you. Finally, I would like to thank the four hotels in the Lake Torne Area for their co-operation.

# QUESTIONNAIRE 2002

Percentage of the number of received questionnaires 544 pcs.

---

## Questions about your visit to the Torneträsk area in 2002

---

1. In what month did you visit the Torneträsk area? See spec. document.....
2. See the map of the Torneträsk area. Mark on the map with a coloured pencil what part of the Torneträsk area you liked best during your visit.
3. Why did you appreciate the area you marked on the map best of all? .....  
See spec. document.....  
.....

Map over the Torneträsk area. See spec. document.
---------------------------------------------------------

4. Were you accompanied by family, relations, friends or a travel group during your stay in the Torneträsk area in 2002?

93% Yes

7% No

If yes, how many people? 4...mean value

5. What means of transportation did you use to get to the Torneträsk area from your home? If more than one, write a 1 by the means of transport from your home, 2 for the next and so on. - See spec. document

34% Own car

10% Rental car

0% Car with caravan

0% Motor home

13% Bus

53% Train

20% Plane

4% Other means; what? ... See spec. document .....

6. Where did you spend the night in the Torneträsk area?

65%	at a hotel/mountain station	4 nights	<i>mean value</i>	Where? See spec.doc....
14%	in an STF mountain cabin	3 nights		Where? .....”.....
22%	in a rented cabin	5 nights		Where? .....”.....
6%	at a youth hostel	3 nights		Where? .....”.....
4%	in a private home/ summer home	5 nights		Where? .....”.....
1%	in a caravan	18 nights		Where? .....”.....
0%	in a mobile home	0 nights		Where? .....”.....
7%	in a tent	3 nights		Where? .....”.....
1%	other; what? See spec.doc.	5 nights		Where? .....”.....
1%	I didn't spend any nights in the area.			

**7. What factors were least/most important when you decided to visit the Torneträsk area? Circle the most applicable number, 1–5, for each statement.**

	Least important		Most important		
a. Nature experiences	1%	1%	6%	26%	67%
b. National parks	30%	19%	26%	14%	12%
c. Cultural experiences	28%	25%	27%	13%	6%
d. Downhill skiing	45%	5%	4%	8%	38%
e. Cross-country skiing	50%	6%	13%	11%	21%
f. Hiking	30%	8%	9%	15%	38%
g. Sport fishing	74%	11%	7%	5%	3%
h. Hunting	91%	6%	2%	1%	1%
i. Berry picking	81%	10%	5%	3%	1%
j. Transport to and from	24%	7%	25%	32%	12%
k. Availability of hotels and service	10%	8%	28%	38%	16%
l. Other factors; what? .....	-	-	-	-	-
21% See spec.doc.....	-	-	-	-	-
.....	-	-	-	-	-

**8. What activities did you pursue during your stay in Torneträsk in 2002?**

39%	Downhill skiing, if so where?	See spec. document .....
18%	Day trips on cross-country skis, from where, to where? .....	See spec. document .....
4%	Several-day trips on skis, from where, to where? .....	See spec. document .....
6%	Snowmobiling, from where, to where? .....	See spec. document .....
1%	Dog sledding, from where, to where? .....	See spec. document .....
38%	One-day hikes, from where, to where? .....	See spec. document .....
12%	Several-day hikes, from where, to where? .....	See spec. document .....
3%	Helicopter trip, from where, to where? .....	



**12. Please try to estimate the total cost of your own and your family members' trips from your home to the Torneträsk area in 2002 – tickets, petrol, rental cars, etc**

7% less than SEK 1,000	32% SEK 1,000-2,999
3% SEK 3,000-4,999	25% SEK 5,000-9,999
8% SEK 10,000-14,999	3% SEK 15,000-19,999
2% more than SEK 20,000	

**13. Please try to estimate the total cost of your own and your family members' expenses for overnight stays, food, lift cards, equipment rentals, souvenir purchases, travels and so on within the area in 2002.**

8% less than SEK 1,000	23% SEK 1,000-2,999
24% SEK 3,000-4,999	27% SEK 5,000-9,999
10% SEK 10,000-14,999	4% SEK 15,000-19,999
2% SEK 20,000-24,999	1% SEK 25,000-29,999
1% SEK 30,000-34,999	1% more than SEK 35,000

**14. Have you been to the Torneträsk area before in:**

a. 2000–2001?	50% Yes	50% No	0% Don't remember
b. 1995–1999?	56% Yes	44% No	0% Don't remember
c. 1990–1994?	46% Yes	53% No	1% Don't remember
d. 1985–1989?	41% Yes	59% No	0% Don't remember
e. 1984 or earlier?	44% Yes	55% No	1% Don't remember

Follow-up question if you have been in the Torneträsk area previously. **Do you think the area has changed to become more or less attractive to you this year than previously?**

27% Yes                      51% No                      22% Don't know

**If yes, how has the area's attractiveness changed?** See spec. document .....

.....

.....

.....

**15. In 1986, Torneträsk was named a biosphere reserve in hopes of creating a model of ecological, financial and cultural sustainable development. Did you know before coming to the Torneträsk area that parts of it are part of a biosphere reserve?**

13% Yes                      87% No

**If yes, did that affect your decision to visit the Torneträsk area?**

11% Yes

89% No

**16. Is the area more or less attractive for you to visit because of it's being named a biosphere reserve?**

30% The area is more attractive to visit

1% The area is less attractive to visit

69% It is of no importance to me that the area is a biosphere reserve.

Follow-up question. **In what way has the area become more/less attractive to visit?**

...See spec.document.....

.....

**17. Take a position on the following statements about your relationship to the Torneträsk area and to the Swedish mountains as a whole. Circle the alternative that best corresponds to your opinion: YES or NO.**

	<b>Torneträsk region</b>		<b>Swedish mountains</b>	
	Yes	No	Yes	No
What happens to this place is important to me.	90%	10%	93%	7%
I have emotional ties to this place; it means something to me.	64%	36%	69%	31%
I identify with the lifestyle and the people I encounter here.	62%	38%	62%	38%
I feel relaxed when I visit this place.	99%	1%	98%	2%
Sometimes I feel like a stranger when I visit this place.	15%	85%	15%	85%

---

**Some general questions about the Swedish mountains**

---

**18. How well do you think the mountains and their facilities are cared for? Circle the alternative that best describes your feelings. Circle one for each description.**

<b>How do you feel about...</b>	<b>Very negative</b>	<b>Negative</b>	<b>Neutral</b>	<b>Positive</b>	<b>Very positive</b>
Having camp sites with a WC, dustbins, campfire spot etc	1%	4%	15%	39%	41%
Having mountain stations	0%	1%	6%	26%	66%
Having marked hiking trails	0%	1%	5%	26%	67%
Being able to drive into attractive areas for day trips	17%	19%	29%	22%	12%
Seeing traces (cold campfires, wear) of other visitors	34%	35%	28%	3%	0%
Seeing traces of terrain-going vehicles	50%	28%	19%	2%	1%
Experiencing untouched countryside	0%	0%	3%	17%	80%
Being able to go for days without seeing houses, roads etc	0%	1%	24%	25%	49%
Only seeing a handful of other visitors	1%	2%	27%	41%	29%
Meeting tourists from other countries	0%	2%	42%	39%	17%
Being able to hike off the trails	0%	2%	25%	33%	40%
Being able to camp wherever you want	0%	2%	23%	26%	49%
The fact that airplanes and helicopters can land here	14%	18%	47%	15%	6%
Being able to ride a mountain bike	16%	20%	42%	15%	7%
The area having rare flora and fauna	0%	0%	9%	25%	66%
Knowing that our four biggest predators (wolf, bear, lynx and wolverine) may be in the area	0%	2%	13%	32%	53%
Being able to make campfires anywhere	6%	15%	32%	32%	15%
Being 5 km from the nearest house, road, cleared area, dam, telephone mast etc at the centre of the area	1%	1%	24%	29%	45%

**19. The following are statements about the environment in the mountains. Circle the alternative that best corresponds to the statement. Circle one for each statement.**

	Disagree completely	Disagree in part	Neutral	Agree in part	Agree completely
It's important that there are areas of the mountains with no trace of human interference	1%	1%	8%	22%	68%
There should be <u>more</u> nature preserves and national parks in the mountains	2%	2%	29%	28%	31%
There should be <u>fewer</u> nature preserves and national parks in the mountains	54%	12%	29%	2%	3%
Tourists put too much wear on the foliage	3%	10%	36%	37%	14%
The reindeer put too much wear on the foliage	18%	14%	52%	11%	4%

---

**Questions about your background. The survey results never indicate in any way how individual people responded.**

---

**20. What was your home city and country when you visited the Torneträsk area in 2002?** See spec. document .....

**21. What year were you born?** 1956 *mean value*      **Sex:** 41% Female      59% Male

**22. What is your level of education?** *Select only one.*

- 6%    Elementary school
- 18%    Upper secondary/high school
- 5%    Folk high school/community college
- 22%    University/college bachelor's degree
- 41%    University/college beyond bachelor's degree
- 8%    Other    See spec.document .....

**23. What was the approximate combined income in your household in 2001, after taxes?**

- 5%    up to SEK 99,999
- 15%    SEK 100,000-199,999
- 22%    SEK 200,000-299,999
- 23%    SEK 300,000-399,999
- 17%    SEK 400,000-499,999
- 19%    Over SEK 500,000

*Many thanks for your time!*

*Please use the reply envelope and return the form as soon as possible.*