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Source: Mountain Research and Development, 22(2) : 142-149

Published By: International Mountain Society

URL: https://doi.org/10.1659/0276-4741(2002)022[0142:CTPITS]2.0.CO;2

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Mountain Research and Development Vol 22 No 2 May 2002: 142–149

Thomas A. Heberlein, Peter Fredman, and Tuomas Vuorio

Current Tourism Patterns in the Swedish Mountain Region



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 distinctively 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.*

Peer reviewed: *January 2002.* **Accepted:** *March 2002.*

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 certain 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 km^2, 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

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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 Assner)



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 Assner)

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

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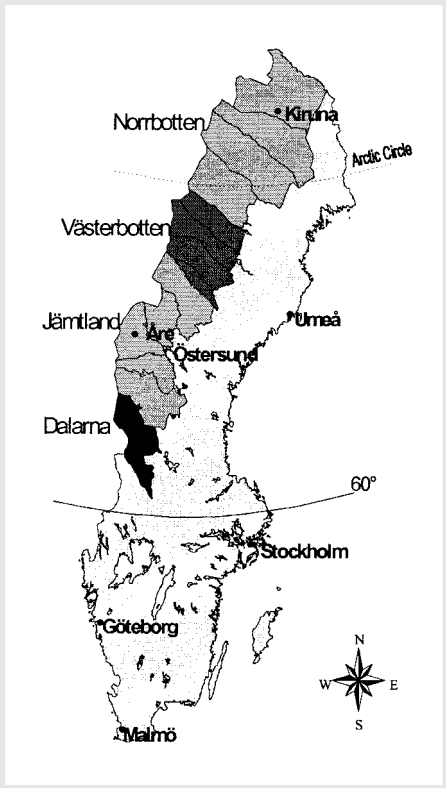


FIGURE 3 The Swedish mountain region includes 15 municipalities in 4 counties (Dalarna, Jämtland, Västerbotten, and Norrbotten). (Map by authors. Data from Arc Sverige 1998)

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 Åre 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 km^2. 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.

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	County	Visitors (in thousands)	High season (% visitors)
North	Norrbotten	122	Summer (64)
↑	Västerbotten	143	Summer (50)
	Jämtland	639	Winter (66)
South	Dalarna	522	Winter (78)

TABLE 1 Number of individuals who reported at least 1 visit to the mountain region between Sep 1998 and Aug 1999, and high season in each county, with percentage of visitors. Summer season: Jun–Sep, winter season: Dec–Apr.

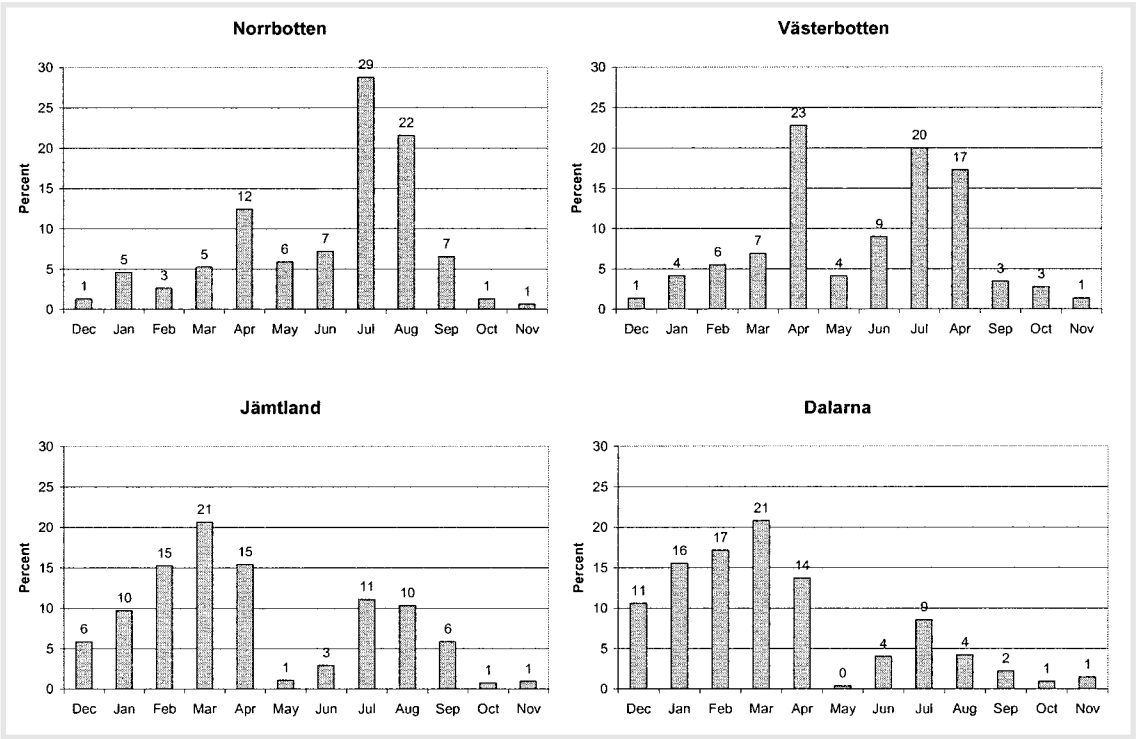


FIGURE 4 Seasonal tourism patterns in the 4 counties in the Swedish mountain region, showing the percentage of annual visits per month.

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-

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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 1 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 1 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 (ie, 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 30% 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

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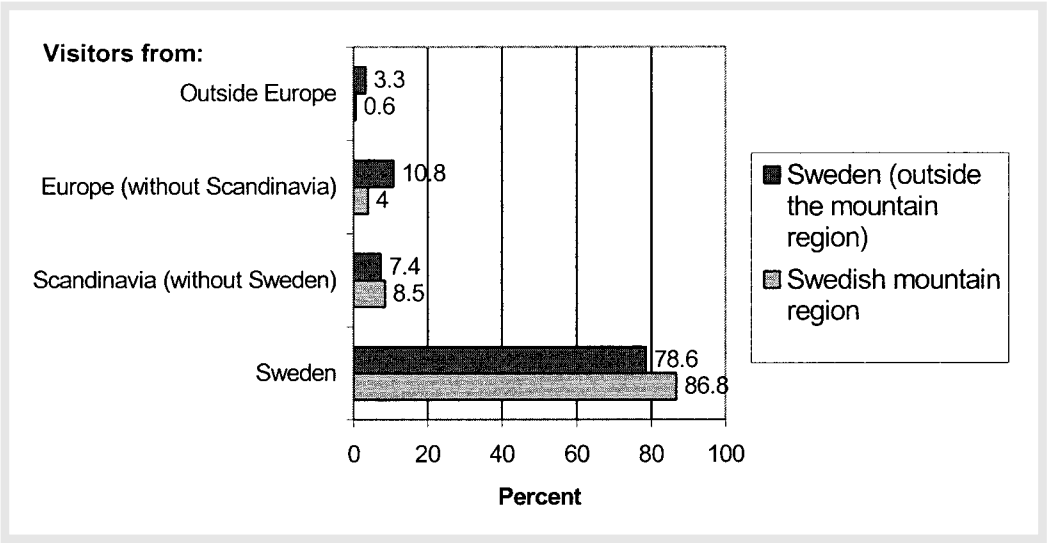


FIGURE 5 Domestic and international percentages of overnight stays in the mountain region versus stays in Sweden outside the mountain region. (1997 Data acquired from Statistics Sweden 2000.)

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 (eg, 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-

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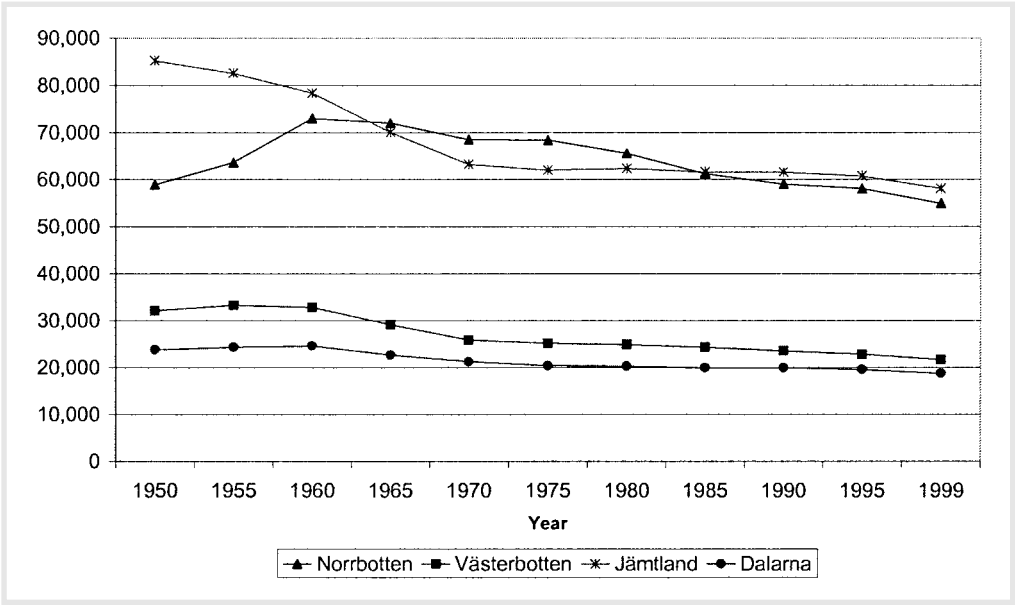


FIGURE 6 Population trends in the 15 mountain municipalities of the 4 mountain counties, 1950–1999. (Data acquired from Statistics Sweden 2000.)

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

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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 (Ekoturismföreningen 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.

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