

# Winter Recreation Trends in the Swedish Mountains – Challenges and Opportunities

PETER FREDMAN\* AND TATIANA CHEKALINA

*Mid-Sweden University, Östersund, Sweden*

## 16.1 Introduction

The Swedish mountain region is an attractive recreation landscape and tourism is an increasingly important use of the area, despite it being a sparsely populated area far from the more urbanized regions further south (Heberlein *et al.*, 2002; Lundmark, 2005; Fredman *et al.*, 2016). The alpine area above the tree line covers about 10% of the country, while the mountain municipalities have less than 2% of the Swedish population. Besides a handful of larger alpine ski resorts, a few areas have more developed hut-to-hut systems for hiking and cross-country skiing, while most places are less accessible with limited services for tourism. Hence, most of the mountain tourism in Sweden is small-scale, dispersed and features strong seasonality patterns (Lundmark, 2006). The proportion of protected areas is significantly higher than the average for Sweden, providing opportunities for more nature- and culture-oriented tourism, while motorized and extractive activities are typically more restricted in such areas. Whereas summer tourism dominates in the north, winter tourism dominates in the southern parts of the mountain region (Heberlein *et al.*, 2002).

Most of the visitation to the Swedish mountains takes place during the winter season. Fredman *et al.* (2016) estimate that 50% of all domestic visits take place between January and April (main winter season), while 30% take place in the summer (May–August) and 20% in the September–December period. The most popular activities in the winter season are downhill skiing, cross-country skiing, picnicking, sledging and snowmobiling, while in the summer and autumn different forms of hiking dominates. Relaxation, being with family and friends, being close to nature and physical activity are the main motivations to visit the mountains in wintertime (Fredman *et al.*, 2016). The average expenditure for a visit to the mountain region is approximately €950, and winter visitors spend about 10% more compared with summer visitors. A major driver in this context is the downhill ski industry, which in the 2016/17 season reported SEK1.46 billion in ski pass sales (SLAO, 2017). The economic significance is probably also the reason why most of the scientific literature on winter tourism has circled around alpine skiing.

Hudson (2003) estimated the ski market to include some 70 million skiers worldwide, primarily within Europe, North America and Japan. While skiing continues to

\* E-mail: peter.fredman@miun.se

grow in regions such as Eastern Europe and South-east Asia, the markets in Europe and North America have matured and participation levels have stabilized. However, economic progress in China and Eastern Europe has led to new emerging markets with high growth rates (Vanat, 2019). Looking into the more recent skiing literature it is obvious that more attention is given to impact from climate change than any other issues involving this winter activity. Steiger *et al.* (2019) reviewed 119 publications that examined the climate change risk to ski tourism and made several noteworthy observations. They found decreased reliability of slopes dependent on natural snow, increased snowmaking requirements, shortened and more variable ski seasons, a contraction in the number of operating ski areas, altered competitiveness among and within regional ski markets, and attendant implications for ski tourism employment and values of vacation property real estate values.

These findings are interesting, also beyond the topic of climate change, since they point to the many relationships there are between environmental, economic, technological and social factors affecting tourism in general, and winter tourism in particular. Mega trends, such as climate change or new technology, produce drivers of change that impact conditions at local, regional and national levels (Elmahdy *et al.*, 2017), such as recreation motivations and constraints (Fredman and Heberlein, 2005) and the restructuring of local economies (Lundmark, 2005). They will also play a significant role when it comes to participation in typical mountain recreation activities such as hiking and skiing. Hence, the aim of this chapter is to review trends in some of the main winter recreation activities in the Swedish mountains in order to discuss associated challenges and opportunities through the lens of such mega trends. To do so, we take advantage of previous studies of mountain recreation in Sweden (Naturvårdsverket, 1985; Fredman and Heberlein, 2003) and analyse participation trends with a special focus on downhill skiing, cross-country skiing and snowmobiling.

## 16.2 Method

Data for this chapter come from three different surveys. The first and original survey (SEPA, 1985) was carried out by the Swedish Environmental Protection Agency in the mid-1980s in order to study participation in mountain recreation for environmental management purposes (Naturvårdsverket, 1985). Questions asked concerned region visited, participation in key activities and choice of lodging. This survey was replicated twice by the European Tourism Research Institute at Mid-Sweden University (ETOUR, 2000 and ETOUR, 2013), providing an opportunity to study trends in Swedish mountain tourism (Fredman and Heberlein, 2003; Fredman *et al.*, 2016). This chapter reports trends among domestic visitors to the Swedish mountains based on these three surveys. Table 16.1 provides an overview of survey methodologies and response rates. In order to study changes over time, the selection of activities and framing of the questions had to rely on the original design from 1985. This survey was administered through regular post to a sample of 2500 individuals living in Sweden. The latter surveys also included a postal questionnaire, but with some methodological variations. The ETOUR (2000) survey used a telephone screener, which identified visitors to the mountain region who later received a follow-up postal questionnaire. Postal survey is a well-established method for a self-administered survey distribution, which is an effective and rather inexpensive approach to reach a specific sample (Finn *et al.*, 2000).

**Table 16.1.** Survey methodologies and response rates.

Study	Study period	Method	Responses	Response rate
SEPA 1984	1980–1984	Postal survey	1886	75%
ETOUR 2000	1995–1999 <sup>a</sup>	Telephone screener + follow-up postal survey	1384	64%
ETOUR 2013	2009–2013	Online panel survey	1000	35% <sup>b</sup>
		Postal survey	355	

<sup>a</sup>May 1995 – April 2000; <sup>b</sup>Response rate of postal survey.

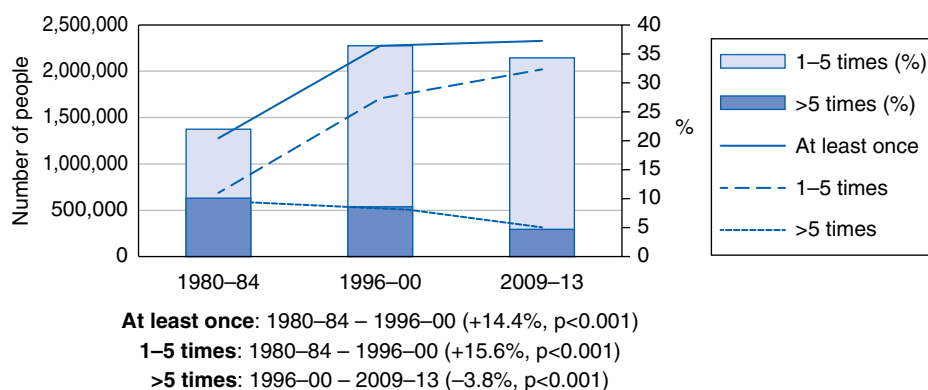
However, due to declining response rates and lower response rates for the younger generation cohorts, the ETOUR (2013) survey had two separate approaches. One on-line panel survey with 1000 participants complemented a traditional postal survey sent to 1000 individuals. Leisure and tourism research increasingly utilizes online panels as the data collection method (Hung and Petrick, 2012). A mixed data collection strategy is a way to overcome the exclusion of non-internet users from the sample, which is the main disadvantage of online panel surveys (Callegaro *et al.*, 2014). The 2009–2013 figures reported here combine data from the online and postal surveys.

The population surveyed was individuals living in Sweden of age 15–70 years, which grew from 5.9 million in year 1984 to 6.2 million in year 2000 and 6.8 million in year 2013. Although data collection procedures did differ between the surveys, they all applied a random sampling frame to reach the target population. The question asked was: ‘Think about your visits to the Swedish mountains the last five years. How many times have you participated in the following activities?’. The frequency of participation was measured on a 5-point scale with the categories: ‘Never’, ‘1–2 times’, ‘3–5 times’, ‘6–10 times’ and ‘More than 10 times’. For the purpose of this study, we report the number of people, and proportion of the population, participating at least once, one to five times, and more than five times during each 5-year period, which means the two latter measures can also be interpreted as people participating on average ‘once a year or less’ and ‘more often than once a year’.

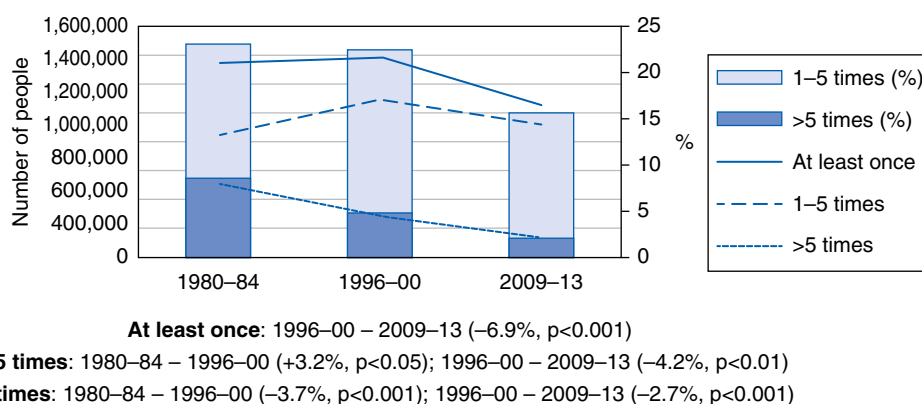
### 16.3 Winter Recreation Trends 1980–2013

Figures 16.1 to 16.4 show participation trends of the winter recreation activities studied among domestic visitors to the Swedish mountain region between 1980 and 2013. Each figure reports both the proportion of the population participating (in per cent) and the total number of participants (proportion times the surveyed population). Significant changes between the periods studied are estimated with a *z*-test for the difference of proportions and reported at  $p < 0.05$  or better.

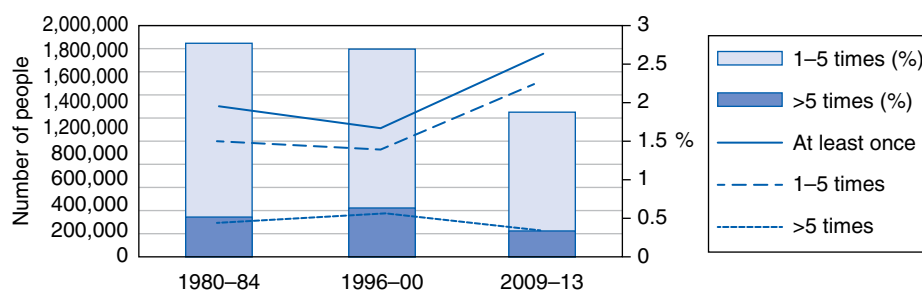
The most popular activity, downhill skiing, increased dramatically from the early 1980s to the late 1990s, but has since then been quite stable. Our data show that the early increase in this activity accounts for those participating one to five times, while for the latter period there is a significant drop in participation among people skiing more than once a year. Hence, in this case the trend is quite clear: alpine ski areas increasingly attract less frequent skiers (those skiing no more than once a year on average), while they have lost the more frequent skiers (those skiing more than once a year on average).



**Fig. 16.1.** Downhill skiing: changes in participation 1980–2013.

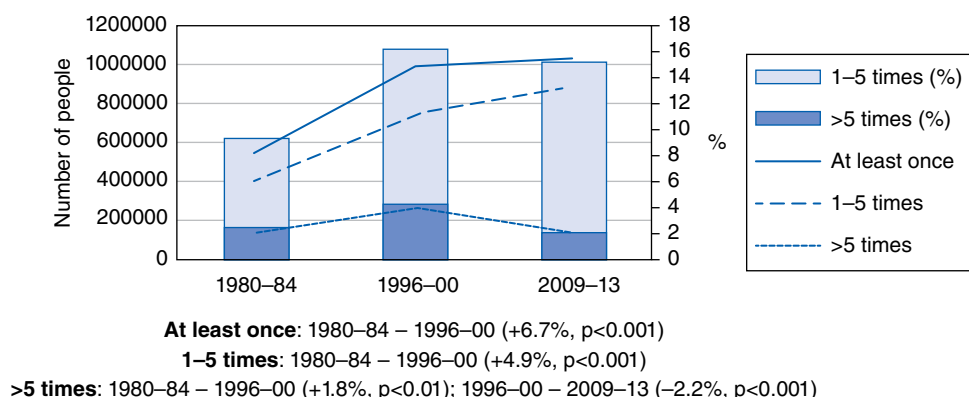


**Fig. 16.2.** Cross-country skiing (day): changes in participation 1980–2013.



**Fig. 16.3.** Cross-country skiing (overnight): changes in participation 1980–2013.

The second most popular recreation activity, cross-country skiing, was measured both as 1-day and overnight tours (see Figs 16.2 and 16.3). One-day tours are considerably more common than the overnight tours and feature several significant changes in participation over time. While the proportion of the population that did 1-day tours one to five times during a 5-year period increased from the early 1980s to the



**Fig. 16.4.** Snowmobiling: changes in participation 1980–2013.

late 1990s, those who did ski more than five times decreased. Hence, the number of people participating in 1-day cross-country skiing tours at least once hardly changed at all between the first two periods studied. For the later most recent period, the story is quite different. In this case, total participation decreased significantly, and figures are negative for both the more and less frequent participants.

Looking at the overnight cross-country skiers, statistical analyses did not reveal any significant differences between the periods studied (see Fig. 16.3). The number of people participating in this activity did increase in the 2009–2013 period compared with the two earlier periods, but the small number of observations make conclusions uncertain. With this in mind, the pattern follows the two previous activities with increases among less frequent participants and decreases among the more frequent participants.

Finally, the only motorized activity studied, snowmobiling, features patterns similar to downhill skiing. Participation increased significantly between the early 1980s and late 1990s for all three measures, while the most frequent snowmobilers decreased between late 1990s and the early 2010s (see Fig. 16.4). Hence, overall snowmobiling has increased significantly during the past few decades, but the increase accounts for the less frequent participants, e.g. those doing snowmobiling no more than once a year on average.

## 16.4 Social, Technological, Economic and Environmental Change 1980–2013

While the trends identified above provide useful information to better understand winter recreation patterns, they certainly do not operate in isolation. Winter tourism, being a subsector of the broader tourism field, is highly affected by several drivers or mega trends (Dwyer *et al.*, 2008). In a literature review, Elmahdy *et al.* (2017) identified 22 different drivers within the social, technological, economic, environmental and political domains of relevance to the nature-based tourism sector. Population growth, urbanization, changing work patterns, lifestyles, high-tech equipment, ICT, economic development and climate change are among those drivers that perhaps have the greatest impact on winter recreation in a mountain context.

Looking at the 33-year timespan of this study, the population studied increased by 15% and the proportion of Swedes living in urban areas (tätort) increased from 83% to 87% (Statistics Sweden, 2018). A reduction in physically demanding employment and more flexible work patterns increase the demand for physical activity during leisure time (Dickinson and Peeters, 2014). Consumers of today are more individualistic, and choices are driven by a desire to define oneself by the products and services consumed. People are increasingly seeking value for money, not necessarily low prices (Dwyer *et al.*, 2008; Enger *et al.*, 2014).

The development of high-tech outdoor recreation equipment and clothing provide opportunities for people to go further and stay longer, even in harsh winter conditions. Smartphones and GPS-based equipment can add safety and enhance the experience of visiting mountains. According to Buckley (2000), this is a key driver behind the immense growth of the outdoor recreation sector. More niche activities (e.g. various forms of skiing such as skate, classic, jibbing, powder) requiring specialized equipment add to this development, which is of course also driven by higher personal incomes. Economic growth in both developed and emerging economies, the increase in disposable income and the emergence of sharing economies have major impacts on the tourism industry (Elmahdy *et al.*, 2017). In Sweden, the median of the disposable income among all households increased by 34% between 1991 and 2013, and the average income from work increased by 61% between 1980 and 2013 (Statistics Sweden, 2018). Today, people can afford to pay their way out in the mountains, through better equipment, guided services and more comfortable lodging, to a larger extent than in the early 1980s.

Finally, the natural environment and climate conditions are crucial in determining the attractiveness and viability of a region as a tourist destination (Elmahdy *et al.*, 2017). In this context, climate change is likely to have major impacts on opportunities for winter recreation in mountain regions in the future. Climate change is not only affecting natural tourist attractions, but also impacts the profitability of the industry through higher energy costs. Climate change will have a negative impact on winter tourism in Northern Europe and North America, where warmer and wetter conditions are expected to shorten the season. In Sweden, the average winter temperature (measured at 35 stations throughout the country) was below average in 11 years and above average in 22 years between 1980 and 2013 (SMHI, 2018). Moen and Fredman (2007) examined 30 years of climate parameters (1970–2000) relevant to alpine winter tourism in Sweden to predict effects on the number of skiing days in order to estimate the monetary impact for the skiing industry. This study showed predicted losses larger than ski ticket sales and recommended that ski destinations should implement year-round activities as an adaptation strategy.

## 16.5 Challenges and Opportunities

The impact from climate change on winter tourism is perhaps the most significant challenge the industry is facing for the future (Steiger *et al.*, 2019). The growing awareness of climate change is, however, mainly limited to perceiving the issue as a global phenomenon, while awareness of regional and branch-specific consequences that will lead to actions is not identified (Trawöger, 2014). Whether the decline in skiing recognized in this study is because of less favourable conditions due to climate change or

not is difficult to say. It could just as well be an indication of Swedish skiers substituting the Swedish mountains with other destinations in the European Alps, North America and/or Japan in the vein of increased global travel. One observation, however, is that the capacity for snowmaking has increased considerable during the study period, which is typically identified as a measure to adapt to the negative effects from climate change (Scott, 2006).

One interesting finding from this study is that people appear to participate less frequently in the activities studied. Both alpine skiing and snowmobiling increasingly attract less frequent participants (those participating no more than once a year on average), while they have lost the more frequent participants (those participating more than once a year on average). This could be a sign of activity diversification (people substituting one type of skiing for another), place substitution (people go to different places to ski) and/or decrease in loyalty (people try out skiing once and then do something else). From a business standpoint, a growing market of less frequent participants is probably preferred over the more frequent participants, as the former group is likely to consume more services (rentals, guided tours, etc.) and view a visit to the mountains as relatively more exclusive vis-à-vis the more frequent visitors.

According to Mehmetoglu (2007), nature-based tourism involves mainly affluent tourists from developed countries in relatively high-income groups. Winter tourism is no exception, typically being both equipment- and transportation-dependent. White *et al.* (2016) argue that attracting visitors from high-income groups is particularly important for destinations that focus on outdoor activities that involve high expenditure levels such as developed skiing (snowboarding, downhill) and motorized activities. One approach to target such high-income groups is to look for the international visitors (Fredman, 2008). Since the current study included only domestic visitors, it left out the growing segment of international travellers. According to the Swedish Agency for Economic and Regional Growth (2014), the consumption by foreign tourists in Sweden more than doubled between year 2000 and 2014. While no reliable data exist on foreign visitation to the Swedish mountain region, there are good reasons to believe it is an increasing segment, as shown in, for example, overnight statistics, and may outweigh the negative trend in domestic tourism identified in this study.

As a final remark, we would also like to highlight the methodological challenges in this kind of research. Perhaps the most striking observations are the decreasing response rates reported in Table 16.1. This is a general trend in the social sciences, not unique to these surveys, but nevertheless very problematic for the reliability of this kind of research. One approach to deal with this issue is to switch to other data collection methods, such as online panel surveys (Callegaro *et al.*, 2014). While the validity of such panels is under debate, they are cost-effective and the survey instrument becomes more flexible compared with traditional telephone or paper surveys. Any change in data collection method is, however, a challenge to trend analysis as comparisons across surveys become less reliable.

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