

Wilderness: a resource or a sanctuary? Views of tourism service providers

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Abstract

The growing popularity of nature-based tourism means that the tourism industry is increasingly utilizing wilderness areas to provide visitor experiences. However, tourism activities negatively impact wilderness quality. Tourism service providers play an important role in shaping these impacts. Therefore, this study investigates their preferences regarding wilderness use and development. It focuses on the Icelandic Central Highlands, which contain some of Europe's largest wildernesses and are an important venue for tourism. The relationship between participants' preferences and environmental attitudes is also investigated, providing insights into the reasoning behind these preferences. For this study an online questionnaire was distributed among day tour providers and travel agencies operating in Iceland. The results revealed that the attitudes of over 87% of the participants were pro-environmental. Accordingly, most tourism service providers preferred basic tourism infrastructure in the Central Highlands, and they did not support further energy or road developments. However, their attitudes toward the Central Highlands National Park proposal were divergent despite the positive relationship with environmental attitudes. Concerns about regulations and access restrictions to the area played an important role in shaping the attitudes toward the national park proposal, demonstrating the importance of considering tourism stakeholders' interests for ensuring their support for wilderness conservation.

Keywords: wilderness planning; nature-based tourism; tourism service providers; stakeholder inclusion; NEP scale

Introduction

The number of visitors to wilderness areas, most of which stretch across high latitudes (Watson et al., 2018), is continually growing. Thus, the tourism industry increasingly relies on wilderness as a resource (Saarinen, 2016; Sæþórsdóttir & Hall, 2021). However, wilderness areas contain natural resources that are of high interest to multiple stakeholder groups with different preferences regarding their use. In the northern peripheries, natural areas have not only been used for tourism and outdoor recreation, but also for renewable energy harnessing, oil, gas, and mineral extraction, agriculture, fish and timber harvesting, and traditional lifestyles (O'Garra, 2017; Sæþórsdóttir & Saarinen, 2016a; Sonter et al., 2020). As a result, growing anthropogenic pressure on wilderness areas and their sensitivity to human activities has led to increasing conservation efforts in the Nordic countries, and broader discussion on the sustainable use of wilderness areas (Avango & Roberts, 2017; Bastmeijer, 2009; Watson et al., 2003; Youdelis et al., 2020). Saarinen (2016) categorized the various approaches to wilderness into three main perspectives: wilderness as a conservation unit, which separates wilderness and society; wilderness as provider of natural resources and materials; and wilderness as tourism product. These differing perspectives describe the ways people define, frame, and use wilderness areas in the Nordic regions and elsewhere. Significantly, they can lead to various conflicts between users, but also to symbiotic relationships, which contribute to wilderness conservation.

Tourism is generally viewed as more compatible with wilderness conservation than extractive land uses (Hall et al., 2008; Sæþórsdóttir & Saarinen, 2016a), and is an important contributor to regional development, thereby providing an economic justification for wilderness conservation (Hall & Saarinen, 2010; Mura & Ključnikov, 2018; Sæþórsdóttir & Hall, 2019). However, excessive tourist numbers and the related infrastructure developments threaten the natural environment and other qualities associated with the wilderness experience, such as remoteness from signs of human settlement and solitude (Saarinen, 2019, 2021; Sæþórsdóttir, 2010b). Therefore, identifying potential conflicts between tourism, wilderness conservation and other land uses and opportunities for symbiotic relationships is essential (Saarinen, 2016). Increased knowledge of the tourism industry's preferences for future use of wilderness, their environmental attitudes and the sustainability of their preferences is needed to achieve that.

The Icelandic Central Highlands contain wilderness areas which are among the largest in Europe (Carver et al., 2023; Thórhallsdóttir, 2007). Preserving the country's wilderness is one of the objectives set by the Icelandic Nature Conservation Act Nr. 60/2013 (Althingi, 2013). In the Act, the term "uninhabited wilderness" is used, which is defined as "an uninhabited area that is generally at least 25 km² in size or such that one can enjoy solitude and nature without disturbance from human-made structures or motorized vehicle traffic and at least 5 km away from human-made structures and other technical traces, such as power lines, power plants,

reservoirs, and built roads” (authors’ translation) (Althingi, 2013). Wilderness mapping conducted based on this definition (Carver et al., 2023; Ostman et al., 2021) shows that a significant part of the Central Highlands can be categorized as wilderness. While being legally defined based on the above characteristics for management and conservation purposes, wilderness is also a social construct produced through various discourses and social practices (Williams, 2002). The Icelandic Central Highlands, which are a focal point of competing wilderness uses, can thus be described as a hybrid place, which is simultaneously natural, social, political and cultural (Sæþórsdóttir et al., 2011).

Since the 1960s various Highland rivers have been harnessed for hydroelectricity production, and the area is also rich in wind and geothermal energy resources. Consequently, numerous energy projects in the Central Highlands are under consideration (Pétursdóttir, 2021). However, nature is the main attraction to most international visitors coming to Iceland (Icelandic Tourist Board, 2020), and the Central Highlands are attractive for tourism and recreational activities. The Icelandic Central Highlands also contain numerous protected areas (The Environment Agency of Iceland, n.d.-a), and a proposal to establish a national park covering most of the Central Highlands has been a center of public discussion in recent years (Bishop et al., 2022). Therefore, the area offers a valuable opportunity to investigate the tourism industry’s preferences for wilderness use and conflicts between tourism and other land uses.

This study focuses on the views and preferences of tourism service providers, namely travel agencies and day tour providers operating in Iceland, regarding future use, management and development of the Central Highlands. Tourism in Iceland grew enormously between 2010 and 2019, with revenues of foreign travelers totaling almost half of all exports of goods and services in 2018 (Statistics Iceland, 2022). International visitor numbers are rapidly recovering after the COVID-19 pandemic (Icelandic Tourist Board, 2022), reemphasizing the importance of the tourism industry as a stakeholder in the discussion about the use of the Central Highlands. Tourism service providers, such as travel agencies and day tour providers, only represent a fraction of the Icelandic tourism industry. Nevertheless, they can be defined as key tourism stakeholders in the discussion about management of the Central Highlands, since their businesses depend on tourist experiences, which are directly impacted by management decisions in the area.

The overall aim of this study is to improve the understanding of tourism service providers’ perceptions of wilderness and of its value for tourism in Iceland, and to investigate how their environmental attitudes contribute to shaping their preferences regarding wilderness use and development. The following research questions were put forward: (I) How important are the Icelandic Central Highlands and the wilderness areas they contain for the Icelandic tourism industry? (II) What future management and development of the Central Highlands is preferred

by tourism service providers? (III) How do the preferences of tourism service providers regarding future development of the Central Highlands relate to their environmental attitudes? (IV) What are existing and potential conflicts between nature protection, renewable energy harnessing and tourism development in the Central Highlands? and (V) How can these conflicts be transformed into more collaborative relationships?

Tourism in wilderness

The attractiveness of wilderness areas to tourists continues to grow (Frost & Hall, 2012; Saarinen, 2021). The image of wilderness presented and sold by the tourism industry is one of pristine nature with limited human interference (Müller-Roux, 2021; Pludwinski & Grimwood, 2021; Saarinen, 2019). In line with that, Sæþórsdóttir (2010b) identified five components that visitors to natural areas relate to wilderness experience, which include being surrounded by unspoiled beautiful nature; escaping the daily constraints; spiritual experiences; solitude or companionship; and challenge. Hence, wilderness for the tourism industry embodies a source of extraordinary experiences and opportunities to challenge oneself, which contributes to the sensation of experiences that are totally different from everyday life (Urry & Larsen, 2011). However, wilderness, along with nature in general, is socially constructed, and meanings of wilderness are continuously created and recreated through complex social, cultural, and political processes (Castree, 2001; Cronon, 1996; Williams, 2002). These meanings further shape people's preferences and consequently their actions concerning wilderness use and preservation (Williams, 2002). Viewing wilderness as socially constructed, however, neither denies the importance of the physical environment of wilderness areas nor definitions of wilderness based on the physical qualities of natural areas (Stedman, 2003). Rather, it stresses that a single wilderness area has multiple and often competing meanings assigned to it by various stakeholders (Saarinen, 2005). Consequently, stakeholders can perceive different settings as acceptable in that area, which might lead to divergent use and development preferences (Sæþórsdóttir & Hall, 2018; Sæþórsdóttir & Saarinen, 2016b; Sæþórsdóttir et al., 2021; WallReinius, 2012; Zoderer et al., 2020). Vannini and Vannini (2019) therefore stressed that wild places should be protected by taking into consideration the multiple meanings and forms that they contain. However, they emphasized that “this multiplicity cannot become the justification for ‘anything goes’ exploitative approaches that treat wild places as monetary resources for either industrial extraction, tourism development, or species separation and confinement” (Vannini & Vannini, 2019, p. 270).

While the notion of wilderness has changed over the centuries (Frost & Hall, 2012; Hall et al., 2008; Nash, 1967; Sæþórsdóttir et al., 2011), current approaches often combine wilderness conservation with tourism promotion and practices, which is not unproblematic (e.g. Gogarty et al., 2018; Saarinen, 2019; Vidon, 2016; Zanolin & Paül, 2022). Viewing wilderness areas as

sites for tourist activities may “marginalize other uses and meanings of wilderness” (Saarinen, 2019, p. 477). Indeed, Job et al. (2017) argued that current tourism marketing is in line with the Dominant Social Paradigm (DSP) (Pirages & Ehrlich, 1974), which is based on self-interest and economic growth as a main economic driver and reliance on technological solutions for environmental issues (Kilbourne et al., 2002; Shafer, 2006). Reliance on this paradigm is likely to lead to conflicts between continuous economic growth and sustainable use of limited natural resources (Byers & Gilmer, 2018). Despite a growing awareness of the negative environmental and social impacts of tourism activities and recently increasing effort to incorporate these impacts in the cost of tourism, they are still often externalized, and therefore long-term sustainability cannot be ensured (Streimikiene et al., 2021; Urry & Larsen, 2011). This is especially relevant in wilderness areas, where tourism is one of the major threats which can degrade not only the natural environment, but also the wilderness resource tourism relies on (Duffy, 2015; Saarinen, 2019). The use of natural areas for tourism increases the demand for more infrastructure and better accessibility, which degrade the wilderness experience of certain tourist market groups (e.g. Ólafsdóttir, Sæþórsdóttir, and Runnström, 2016; Sæþórsdóttir, 2013), leading to changes in the type of tourism in the area (Haraldsson & Ólafsdóttir, 2018; Ólafsdóttir & Haraldsson, 2019; Ólafsdóttir et al., 2018; Sæþórsdóttir & Hall, 2021; Tverijonaite et al., 2018). Thus, tourism development in natural and wilderness areas should be carefully planned (Gogarty et al., 2018; Saarinen, 2012; Sæþórsdóttir & Hall, 2021).

As the tourism industry is a key stakeholder in the management of natural areas, it is important not only to collect knowledge regarding the views and preferences of tourism service providers, but also to critically investigate the economic, social and environmental sustainability of the perspectives gathered. As emphasized by Keul (2014), protecting natural areas purely for economic reasons might not be as effective for less charismatic areas, and this might lead to the value of places being defined only in relation to the qualities and attributes that sell.

The New Ecological Paradigm (NEP) scale (Dunlap et al., 2000) is among the most utilized scales for assessing environmental attitudes and worldviews (Ntanos et al., 2019). This study employs the NEP Scale (Dunlap et al., 2000) to measure the pro-environmental orientation of tourism service providers, facilitating the investigation into how understandings of economic growth and the environment affect perspectives regarding the future management and development of the Central Highlands of Iceland and their sustainability.

Study area

The Icelandic Central Highlands are an uninhabited region in the interior of Iceland, consisting mostly of a 400–700 m high plateau and characterized by high geological diversity and scenic landscapes (Árnason, 2020). The area covers around 40% of the country and stretches over 21

municipalities, with around 86% of the land in the area being publicly owned (Bishop et al., 2022; Ministry for the Environment and Natural Resources, 2017; Óbyggðanefnd, n.d.).

The use of the Central Highlands for tourism and recreation only emerged in the twentieth century, enabled by the introduction of cars and the construction of new roads and bridges in the 1960s for the first hydropower plants which made the area more accessible to visitors (Huijbens & Benediktsson, 2015; Sæþórsdóttir, 2004). Currently nine hydropower plants use water from reservoirs constructed in the Central Highlands for power production: seven power stations in the Þjórsá and Tungnaá Catchment Area in the Southern Highlands, Blanda Hydropower Plant in the northwest and Fljótsdalur Hydropower Plant in the east of the Central Highlands (Figure 1) (Landsvirkjun, n.d.-b). In 2020, these power plants produced over 60% of the country's electricity supply (NEA, 2021). All geothermal power plants operating in Iceland are located outside of the Central Highlands, with Krafla Geothermal Power Plant being located at the border of the area (Figure 1). The country currently does not have any wind farms, with the exception of two 2 MW experimental wind turbines operated at the edge of the Central Highlands (Landsvirkjun, n.d.-a). However, two wind farm proposals have been approved by the Icelandic Parliament (Althingi, 2022), both in the Central Highlands. Furthermore, since the Central Highlands contain abundant hydro and wind resources and high potential geothermal areas (Arnórsson, 2012; Ragnarsson et al., 2020), various energy projects have been proposed by energy companies in the area. These are being evaluated by expert groups for the Master Plan for Nature Protection and Energy Utilization (Gíslason, 2016; Ministry for the Environment and Natural Resources, n.d.; Pétursdóttir, 2021).

The existing infrastructure related to hydropower projects in the Central Highlands created extensive visual and environmental impacts on the surrounding areas. The roads that have been built in the Central Highlands for the hydropower plants are generally paved or gravel roads with bridges, while most other roads are gravel roads and tracks without bridges requiring all-wheel drive vehicles. Consequently, hydropower plant developments have made some scenic sites more accessible, which resulted in these becoming popular tourist attractions (Sæþórsdóttir, 2013; Sæþórsdóttir & Hall, 2021). Many other areas in the Central Highlands are not so easily accessible, and the traffic there does not seem to have increased significantly (Ólafsson & Þórhallsdóttir, 2019; The Icelandic Road and Coastal Administration, 2022; Þórhallsdóttir & Ólafsson, 2018).

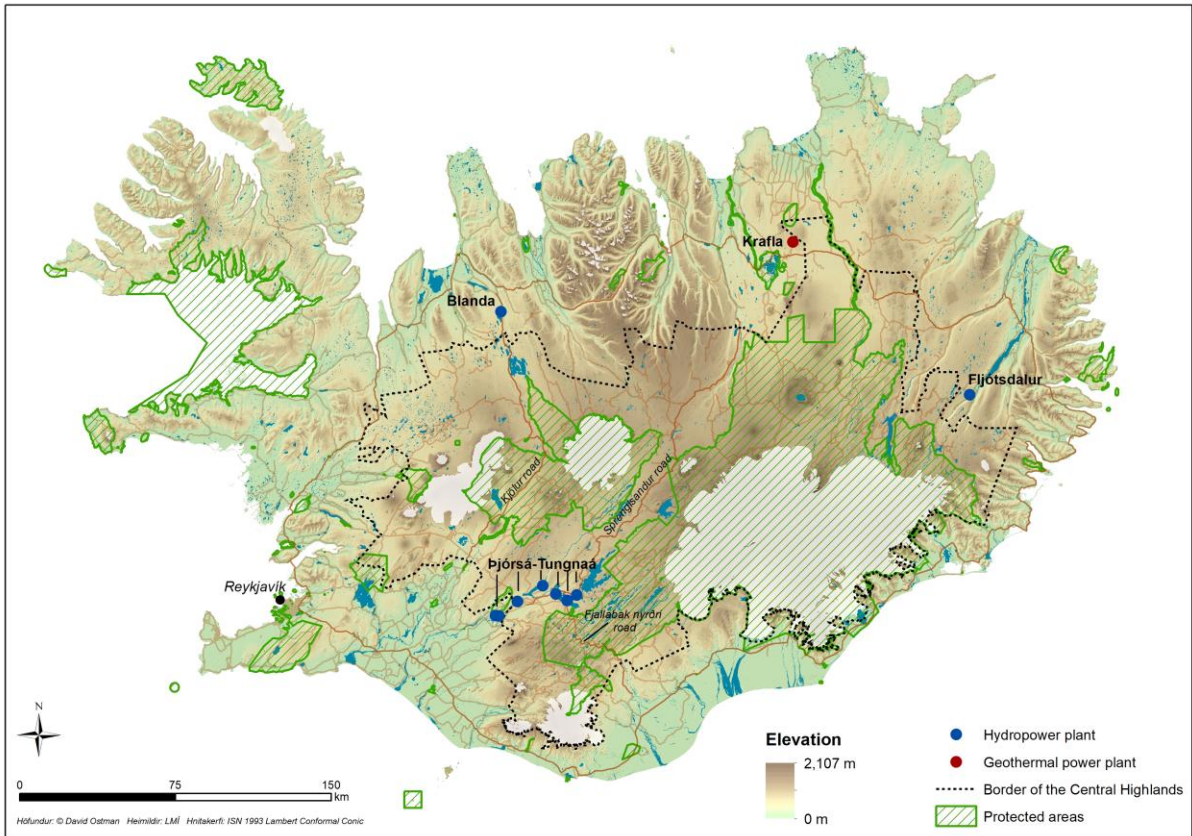


Figure 1. Study area map presenting the boundaries of the Icelandic Central Highlands, existing power plants discussed in this study and protected areas.

Various wilderness mapping studies conducted in the area (Carver et al., 2023; Ostman et al., 2021; Ólafsdóttir & Runnström, 2011) show that despite the presence of some energy and tourism infrastructure the Central Highlands contain large wilderness areas. This is in line with public perceptions of wilderness in the area (Ólafsdóttir & Sæþórsdóttir, 2020; Ólafsdóttir, Sæþórsdóttir, Guðmundsson, et al., 2016). More than one-third of the Central Highlands are protected areas (Bishop et al., 2022), which include Vatnajökull National Park, several nature reserves, natural monuments, and protected landscapes (The Environment Agency of Iceland, n.d.-a). Several Highland areas are also protected from energy developments based on the Icelandic Master Plan for Nature Protection and Energy Utilization (The Environment Agency of Iceland, n.d.-b).

Moreover, the idea of establishing a Central Highlands National Park, which would cover most of the Central Highlands and around 30% of the country (Government of Iceland, n.d.), has been discussed in recent years. In the end of 2020, the Minister for the Environment and Natural Resources submitted a bill on establishing a Central Highlands National Park to the Icelandic Parliament (Althingi, 2020). Upon its introduction, the bill sparked substantial debate (Bishop et al., 2022) and it was later withdrawn from Parliament, which was partially due to increased

public and stakeholder opposition (Capacent Gallup, 2011; Gallup, 2021; Samráðsgátt, 2019–2020; Social Science Research Institute of the University of Iceland, 2016).

The wilderness character of the Central Highlands and their diverse nature are important attractions for visitors to the area (Sæþórsdóttir, 2010b, 2014), which constitute around one-third of all international tourists coming to Iceland during summer months (Icelandic Tourist Board, 2017). Increasing tourism in the area provides feasible economic alternatives to energy development (Sæþórsdóttir & Saarinen, 2016a, 2016b). However, tourism activities in the Central Highlands have their own implications. If not well managed, they can result in environmental degradation, crowding, demand for more tourism infrastructure, and reduced wilderness quality (Ólafsdóttir et al., 2021; Sæþórsdóttir, 2010a, 2013, 2014; Sæþórsdóttir & Hall, 2021). This emphasizes the importance of careful tourism planning in the area and the need for research providing insights into the preferences of the tourism industry regarding management and development of the Central Highlands and their compatibility with sustainable management of the area.

Methods

Data collection

Quantitative research methods were employed for this study. An email with a link to an online questionnaire survey was sent to 984 companies licensed by the Icelandic Tourist Board to operate as travel agencies or day tour providers. The study was limited to travel agencies and day tour providers since these types of tourism businesses are most likely to be directly affected by development decisions in the Central Highlands. The survey was open for one month: from 18th November to 17th December 2020.

Online questionnaire surveys have been shown to have many advantages, such as low cost of data collection, ability to quickly access participants in a wide range of geographical locations, while also offering the opportunity to immediately start data analysis once the data is collected (Dillman et al., 2014; Hung & Law, 2011). Furthermore, due to the absence of an interviewer and higher perceived anonymity, participants tend to be more open and are less likely to provide socially desirable answers (Deutskens et al., 2006; Duffy et al., 2005). However, online surveys tend to have relatively low response rates, often not exceeding 30% (Hung & Law, 2011; Shih & Fan, 2008). To address this issue, two reminder emails were sent to the recipients concerning the survey. An automatic reply was received from 27 email addresses stating that the email was not delivered to the recipient. Five recipients contacted the research team and informed them that they had stopped operating their businesses. Thus, 32 companies were excluded from the contacted sample. Responses were received from 382 of the contacted tourism companies, constituting a 40.13% response rate.

At the beginning of the questionnaire survey participants were informed about the aim of the survey and its length. The leader of the study was also introduced, and her email address was given. Furthermore, participants were notified that their participation was purely voluntary, they could skip any question that they did not wish to answer and withdraw from the research at any time. They were informed that all the responses were anonymous and would be kept confidential, that only the research team would have access to the raw data and only group results would be discussed, written up and published. Depending on the answers given by the participants, the length of the questionnaire survey varied between 28 and 34 questions, which can be grouped into the following categories:

- (1) General questions about the company and its activities;
- (2) Use of the Central Highlands for their business;
- (3) Attractiveness of the Central Highlands to tourists and importance of the area and its wilderness for the tourism industry;
- (4) Attitudes toward further development of tourism infrastructure, roads and access in the Central Highlands;
- (5) Perceived impacts of existing energy infrastructure in the Central Highlands on tourism and attitudes toward further energy developments;
- (6) Attitudes toward the proposed Central Highlands National Park;
- (7) Environmental attitudes.

Data analysis

Descriptive statistics were used to analyze the characteristics of the surveyed companies. Simple linear regression tests and independent t-tests were also conducted to analyze the effects of their characteristics on environmental attitudes. The environmental attitudes of participants serving as a foundation for further analysis, were assessed by using the New Ecological Paradigm (NEP) scale. The scale consists of 15 items (Table 1), which fall into “five hypothesized facets of an ecological worldview”: limits to growth, anti-anthropocentrism, balance of nature, rejection of exemptionalism, and the likelihood of an ecocrisis (Dunlap et al., 2000, p. 432). A five-point Likert scale was used, and participants were asked how strongly they agreed or disagreed with each item. The answer of “strongly disagree” equaled one point, while “strongly agree” equaled five points. Eight items used in the scale represented pro-environmental attitudes, while seven items were in line with the Dominant Social Paradigm (DSP). The points related to these items were reversed when the NEP score was calculated, then the points for all the items were summed up. A higher NEP Score indicated the attitudes of the participants were more pro-environmental.

The assessment of the environmental attitudes revealed that the participants were leaning toward an ecocentric orientation with 87.6% of them exhibiting more pro-environmental

attitudes. The NEP score range varied between 31 and 75, $M = 55.24$, $SD = 8.48$, median = 56 (Figure 2).

The highest agreement mean was for the items revealing pro-environmental attitudes “Despite our special abilities humans are still subject to the laws of nature” ($M = 4.17$, $SD = 0.83$); “Humans are severely abusing the environment” ($M = 3.99$, $SD = 0.96$); and “The balance of nature is very delicate and easily upset” ($M = 3.86$, $SD = 1.00$) (Table 2). The lowest agreement mean scores were for the items representing the attitudes supporting the DSP: “Humans were meant to rule over the rest of nature” ($M = 1.89$, $SD = 1.00$); “Humans have the right to modify the natural environment to suit their needs” ($M = 2.07$, $SD = 1.01$); and “The balance of nature is strong enough to cope with the impacts of modern industrial nations” ($M = 2.10$, $SD = 0.95$).

Previous studies (Dunlap et al., 2000; Ntanos et al., 2019; Rosa et al., 2021) have raised issues concerning the low internal consistency of NEP, which can negatively affect the NEP scale’s correlation with other constructs (Barradas & Ghilardi-Lopes, 2020). A reliability test of the NEP scale was conducted to address this issue, which revealed that Cronbach’s alpha value was equal to .84, showing the scale had a good level of internal consistency.

However, the item-total correlation for “The earth has plenty of natural resources if we just learn how to develop them” reached only .096, and Cronbach’s alpha if item deleted equaled .854, pointing to improved internal consistency of the NEP scale without that item. Issues with this particular item have been encountered in other studies (Harraway et al., 2012; López & Cuervo-Arango, 2008; Van Petegem & Blicck, 2006), suggesting that the item tends to be misinterpreted by the participants (Rideout et al., 2005; Van Petegem & Blicck, 2006). While the item is intended to represent attitudes aligned with the DSP, participants with higher pro-environmental attitudes tend to agree with it, especially in regions where natural resources are perceived to be abundant (Barradas & Ghilardi-Lopes, 2020; Rosa et al., 2021). To improve internal consistency this item was excluded from the NEP scale and further data analysis was conducted using a 14 item NEP score.

Furthermore, as suggested by various researchers (e.g. Dunlap et al., 2000; Ntanos et al., 2019), dimensionality of the NEP scale in this study was evaluated by conducting principal component analysis using varimax rotation with the remaining 14 items, which revealed results similar to Dunlap et al. (2000). The first unrotated component explained 35.7% of the total variance among the items which all loaded heavily on the first factor (between .39 and .74), while the second and third unrotated components explained 11.2% and 10% of the total variance between the items respectively. Therefore, while investigating the relationships between development preferences regarding the Central Highlands and the environmental attitudes of participants the NEP scale was treated as a unidimensional scale.

Table 1. Descriptive statistics for the 15 NEP scale items.

Item ^a	Strongly disagree (%)	Disagree (%)	Unsure (%)	Agree (%)	Strongly agree (%)	M	SD
We are approaching the limit of the number of people the earth can support	3.3	13.4	30.8	35.9	16.7	3.49	1.03
Humans have the right to modify the natural environment to suit their needs	34.7	35.4	19	9.9	1.1	2.07	1.01
When humans interfere with nature, it often produces disastrous consequences	1.8	9.9	20.1	43.6	24.5	3.79	0.98
Human ingenuity will insure that we do NOT make the earth unlivable	9.9	17.2	46.5	22.7	3.7	2.93	0.97
Humans are severely abusing the environment	2.2	7.4	11.4	47.1	32	3.99	0.96
The earth has plenty of natural resources if we just learn how to develop them	7.2	12	18.8	47.8	14.1	3.50	1.10
Plants and animals have as much right as humans to exist	4.7	13.1	9.5	42.5	30.2	3.80	1.15
The balance of nature is strong enough to cope with the impacts of modern industrial nations	29.7	39.8	21.5	8.2	0.7	2.10	0.95
Despite our special abilities humans are still subject to the laws of nature	2.2	3.2	4.7	55	34.9	4.17	0.83
The so-called "ecological crisis" facing humankind has been greatly exaggerated	32.4	32	21.6	11.2	2.9	2.20	1.10
The earth is like a spaceship with very limited room and resources	3	11.4	21	43.2	21.4	3.69	1.03
Humans were meant to rule over the rest of nature	44.9	31.4	15.3	6.9	1.5	1.89	1.00
The balance of nature is very delicate and easily upset	2.5	10.1	12.6	48.2	26.6	3.86	1.00
Humans will eventually learn enough about how nature works to be able to control it	19.5	22.7	41.5	14.8	1.4	2.56	1.01
If things continue on their present course, we will soon experience a major ecological catastrophe	3.7	10.6	21.2	42.5	22	3.69	1.04

^aStrong agreement with odd numbered items shows pro-environmental attitudes while strong agreement with even numbered items shows attitudes which are in line with the DSP.

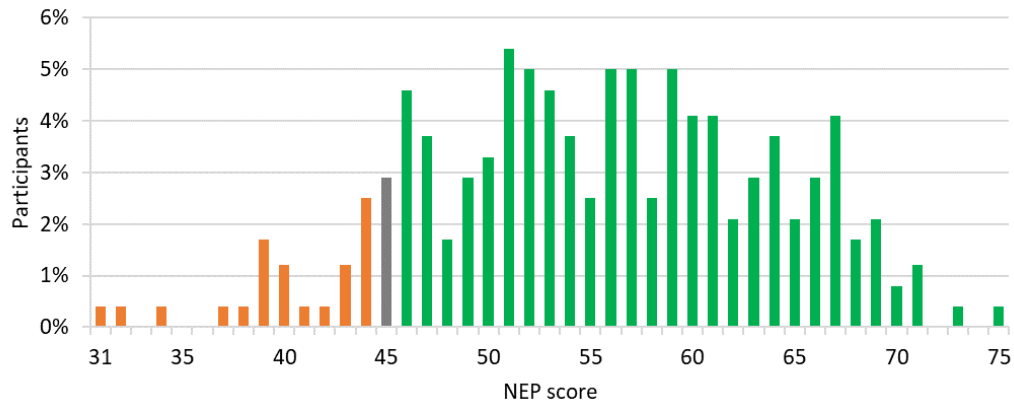


Figure 2. Distribution of the participants' NEP scores. Column 45 marks the median of the scale separating anthropocentric (15-44 points) and pro-environmental attitudes (46-75 points).

The preferences of the participants regarding the future development of the Icelandic Central Highlands were presented using descriptive statistics. The differences between the preferences of users and non-users of the Central Highlands were assessed using independent t-tests. Relationships between the development preferences and environmental attitudes of participants were investigated by conducting simple linear regression tests. Cochran's Q test was also used to compare the proportions of multiple responses related to road development preferences, with the McNemar tests being utilized as post hoc tests to identify statistically significant differences between specific road development preferences. The Chi-square tests for multiple responses were used to assess differences in road development preferences between users and non-users of the Central Highlands.

Results

Participant characteristics

Among the 382 surveyed tourism companies 64.9% stated that they operated as day tour providers, 45.5% as travel agencies, and 9.3% were other types of businesses, which most often included accommodation provision and tourist transportation. About half of the companies operated from the capital area, 17.9% had their headquarters in North Iceland and 16.0% in South Iceland. Most participants (73.9%) organized their tours in the southern part of the country, the second-most mentioned region was the Central Highlands (58.8%), 55.1% operated in the West and 52.7% in North Iceland. Companies varied greatly in the length of their operations, with 25.6% of the companies being younger than five years, and 13.7% having operated for 25 years or longer (Table 2).

The companies using the Central Highlands for their business offered a wide range of tours in the area. A higher proportion of companies offered various day tours than multiday tours in the Central Highlands (Figure 3). Of the 41% of the tourism companies not currently operating in the Central Highlands, almost half stated that they were very (24.8%) or rather likely (22.4%) to use the area in the future.

Table 2. Characteristics of the surveyed tourism companies

Headquarters	N	%
Capital area	135	51.3
North Iceland	47	17.9
South Iceland	42	16.0
West Iceland	13	4.9
Westfjords	10	3.8
Reykjanes	9	3.4
East Iceland	7	2.7
Areas used for business	N	%
South Iceland	278	73.9
Central Highlands	221	58.8
West Iceland	207	55.1
North Iceland	198	52.7
Capital area	197	52.4
Reykjanes	186	49.5
East Iceland	154	41.0
Westfjords	125	33.2
Length of operation	N	%
Less than 5 years	69	25.6
5 to 9 years	71	26.3
10 to 14 years	51	18.9
15 to 24 years	42	15.6
25 years or longer	37	13.7

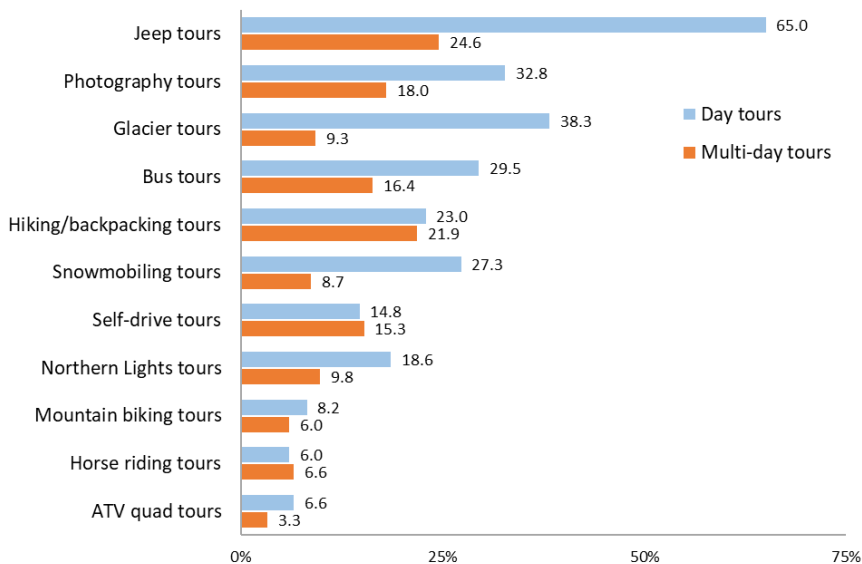


Figure 3. Tours offered by the surveyed companies in the Icelandic Central Highlands.

The characteristics of the surveyed tourism companies were shown not to affect environmental attitudes. A simple linear regression test revealed that a company's length of operation was not a significant predictor of the NEP score ($\beta = -.052$, $p = .432$). Furthermore, independent t-tests showed no significant differences in the 14 item NEP scores between companies operating from the capital area ($M = 52.39$, $SD = 7.60$) and companies who had their headquarters in more rural areas ($M = 53.38$, $SD = 8.75$), $t(226) = -.910$, $p = .364$, nor between users ($M = 52.77$, $SD = 8.23$) and non-users of the Central Highlands ($M = 52.90$, $SD = 8.61$), $t(235) = .114$, $p = .910$.

Importance of the Central Highlands for the tourism industry

The majority of participants (84.5%) perceived the Icelandic Central Highlands as important or very important for the tourism industry. Independent t-tests revealed that the importance of the Central Highlands and of the wilderness areas they contain was perceived as significantly higher by users of the area in comparison to non-users (Table 3). However, no significant differences between users and non-users of the Central Highlands were observed when discussing the increase in future value of the area for the tourism industry, 73.0% of users and 70.4% of non-users stated that the value of the Central Highlands will increase rather or very much in the next ten years (Table 3).

Table 3. Perceived importance of the Central Highlands and of wilderness areas they contain for the tourism industry in Iceland among users and non-users of the Central Highlands.

Statement		Not at all (%)	Somewhat (%)	Very much (%)	M	SD	t-test
The Central Highlands are important for the tourism industry in Iceland	Users	0.0	1.0	6.3	8.9	83.9	t=-4.80 p<.001
	Non-users	1.5	5.1	20.6	11.0	61.8	
The value of the Central Highlands will increase in the next ten years	Users	0.5	1.6	20.5	17.3	60.0	t=-1.77 p=.078
	Non-users	1.5	6.1	22.0	17.4	53.0	
Wilderness areas in the Central Highlands are important for the tourism industry in Iceland	Users	0.0	2.6	8.5	9.5	79.4	t=-2.38 p=.018
	Non-users	2.2	2.9	15.4	10.3	69.1	

When asked how important it is for their company to have a say in the discussion on the future land use and management of the Central Highlands, 15.8% of participants using the Central Highlands stated that it is somewhat important, 30.5% said it is important and 50.0% stated that it is very important. These proportions were somewhat lower among non-users (Figure 4).

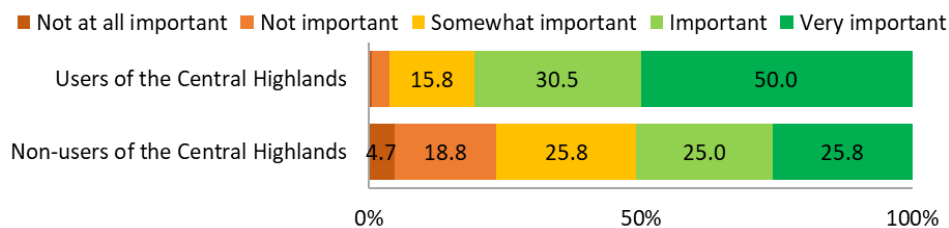


Figure 4. Perceived importance of participating in the discussion on the future land use and management of the Icelandic Central Highlands for the companies using and not using the Central Highlands.

Development preferences of the Central Highlands

The participants were asked about their preferred level of various tourism infrastructure in the Central Highlands. The highest perceived need related to marked hiking trails, expressed by 78.6% of participants, and toilets (83.4%), followed by mountain huts (63.2%) and visitor centers (45.2%) (Figure 5). Perceived need was lowest in respect of hotels (22.8%) and food

services (35.9%). No statistically significant differences were observed between the preferences of users and non-users of the area.

When an open question was posed as to where more tourism infrastructure should be built, most participants mentioned the names of the most popular tourist destinations, areas along the most used roads in the Central Highlands or they stated that more tourism infrastructure should be built in popular and already developed places.

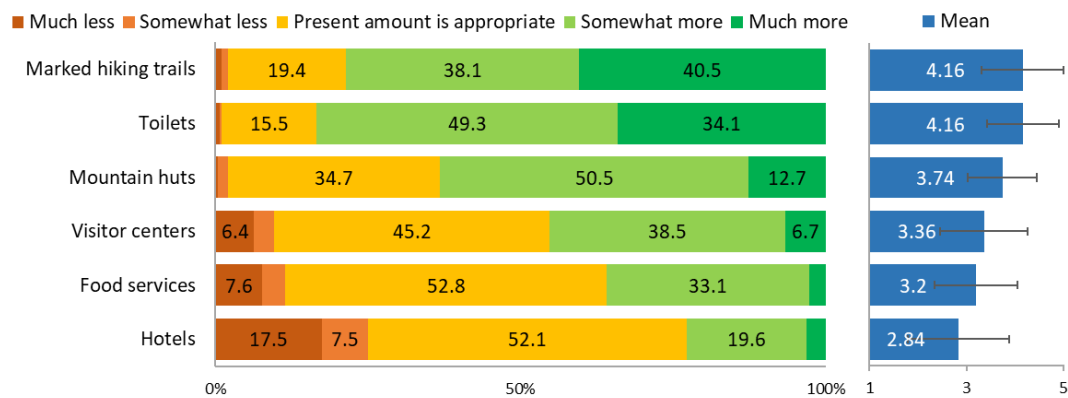


Figure 5. Preferred tourism infrastructure in the Icelandic Central Highlands.

No effect of environmental attitudes was observed on the perceived need for marked hiking trails, toilets, mountain huts and visitor centers. However, there was a significant negative relationship between the NEP score and perceived need for food services ($\beta = -.15$, $p = .032$) and for hotels ($\beta = -.22$, $p = .002$).

When asked about road developments in the Central Highlands, around half of the participants wanted the existing roads to be somewhat better maintained, while the second highest proportion of participants preferred them to be kept in their current state (Figure 6). Cochran's Q test revealed significant differences between the five development preferences concerning the main roads of the Central Highlands, i.e. Kjölur road ($Q(4) = 106.019$, $p < .001$), Sprengisandur road ($Q(4) = 145.667$, $p < .001$) and Fjallabak nyrðri road ($Q(4) = 240.667$, $p < .001$), as well as other Central Highlands roads ($Q(4) = 297.922$, $p < .001$) (see Figure 1 for road locations). McNemar tests with Bonferroni correction showed that the proportion of participants who preferred the roads of the Central Highlands to be more developed by building up, paving the roads, or bridging the rivers they crossed was significantly lower compared to the participants who preferred the roads to be kept in their current state or better maintained, except for the Kjölur road, where Bonferroni adjusted $p = .06$ for the difference between the categories of "kept in current state" and "built up".

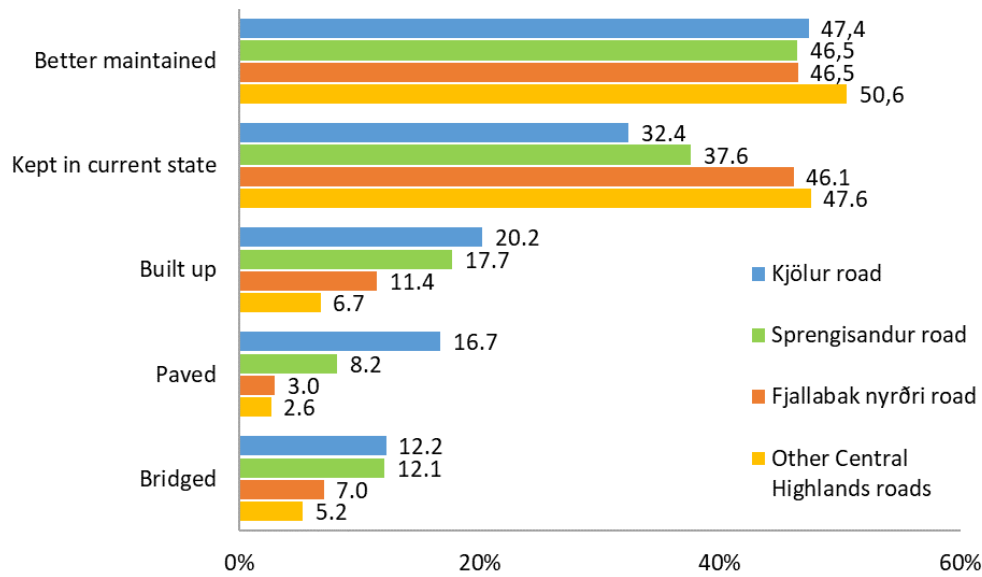


Figure 6. Preferences for road developments in the Icelandic Central Highlands.

Chi-square tests for multiple responses revealed significant differences between users and non-users of the Central Highlands regarding road development preferences (Table 4). A smaller proportion of participants using the Central Highlands for their businesses preferred the roads of the Central Highlands to be built up, paved, or the rivers to be bridged compared to non-users. No significant effect of environmental attitudes on road development preferences was observed.

Table 4. User and non-user preferences for road developments in the Icelandic Central Highlands.

Road		Better maintained (%)	Kept in current state (%)	Built up (%)	Paved (%)	Bridged (%)	χ^2 (df)	p
Kjölur road	Users	50.3	36.9	14	12.3	6.7	33.614 (5)	p<.001
	Non-users	41.7	26.2	30.1	23.3	20.4		
Sprengisandur road	Users	50.8	40.1	11.9	6.2	8.5	23.447 (5)	p<.001
	Non-users	38.6	33.7	27.7	10.9	17.8		
Fjallabak nyrðri road	Users	45	52.6	7.6	1.8	4.7	19.597 (5)	p<.001
	Non-users	48.4	35.8	17.9	5.3	10.5		
Other Central Highlands roads	Users	48.5	53.9	2.4	1.2	3	23.986 (5)	p<.001
	Non-users	54.7	37.9	13.7	4.2	6.3		

When asked about the importance of limiting the number of tourists in the Central Highlands, 14.9% of participants stated that it is not at all important, 26.6% regarded it as not important,

29.4% stated that it is somewhat important, 15.2% considered it is important and 13.8% stated it is very important. No significant differences were observed between the perceptions of users and non-users of the Central Highlands, $t(282) = 1.426, p = .155$. A simple linear regression test revealed that environmental attitudes positively affected the perceived importance of limiting tourist numbers in the Central Highlands ($\beta = .363, p < .001$). Participants were further asked in an open question what they considered to be the best ways to limit tourist numbers. The most popular answers, among others, included the use of quotas, booking systems or permits, which were suggested by 24.1% of participants, along with keeping the roads difficult to drive (20.7%), applying entrance or service fees (18.4%), and allowing or encouraging only guided visits to the area (17.2%) (Figure 7).

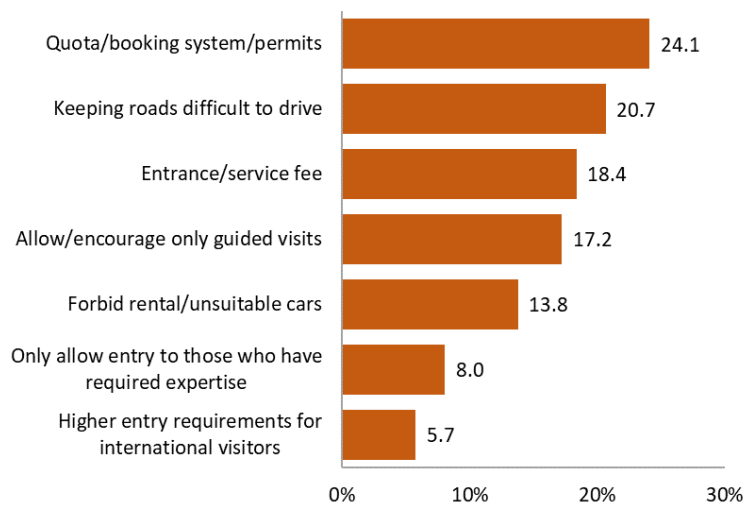


Figure 7. Participants' suggestions to limit the number of tourists in the Icelandic Central Highlands.

Attitudes toward energy infrastructure

When asked about the effects of the nine hydro- and the one geothermal power plants operating within or just outside of the Icelandic Central Highlands on the tourism industry, 51.4% of participants stated that the existing power plants had both positive and negative effects on the tourism industry, 18.6% perceived the effects as positive, 13.8% as negative, and 16.2% stated that the power plants had no effects on the tourism industry.

Participants were asked an open question concerning how they would describe the most significant positive and negative effects of the existing power plants on the tourism industry. While discussing positive effects of power plants most participants, or 43.1%, mentioned improved access to scenic natural areas (Figure 8). Furthermore, 23.8% of participants emphasized that renewable energy harnessing is interesting to tourists, therefore some power plants become tourist attractions and provide opportunities for education about renewable energy (mentioned by 6.4% of participants). Other positive effects included the harnessing of

clean/green energy (mentioned by 15.3% of participants), which is needed for various uses, including tourism (4.5%), contributing to a positive image of Iceland (9.4%), and the creation of new tourist attractions (4.0%). Among the most mentioned negative effects of power plants on the tourism industry was visual pollution (mentioned by 40.3% of participants), also visual pollution caused by power lines (18.8%). Other identified negative effects were degradation of nature and the surrounding area (28.0%), which does not fit with tourist expectations (7.0%), leading to destroyed perception of untouched nature (14.0%) and consequently to degraded wilderness/nature experience (4.8%), as well as loss of land due to flooding (11.8%) and loss of tourist attractions (5.9%).

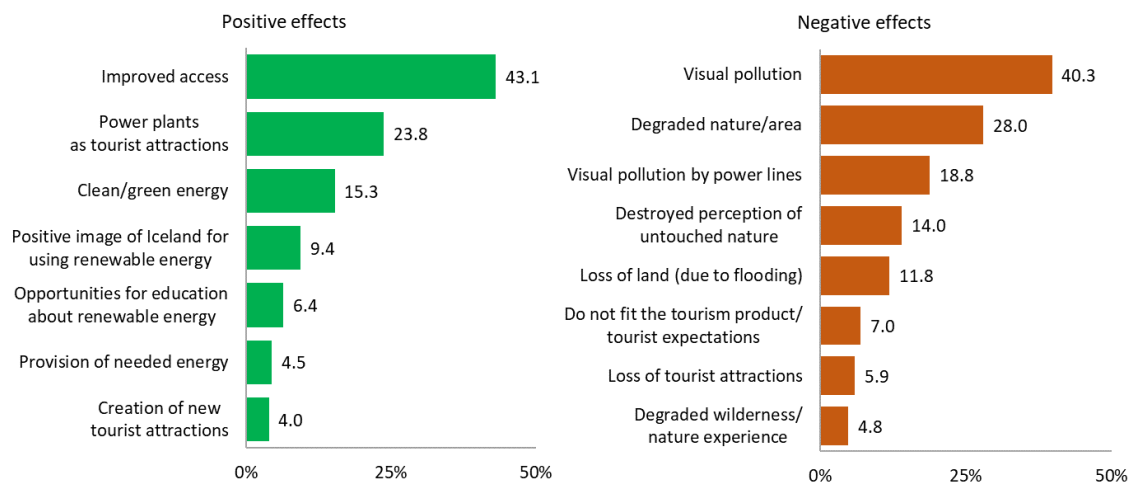


Figure 8. Perceived positive and negative effects of power plants operating within or just outside of the Icelandic Central Highlands on the tourism industry.

While participant attitudes were rather negative toward the future development of all types of energy infrastructure in the Icelandic Highlands and the lowlands, developments in the Highlands were perceived as significantly more negative compared to developments in the lowlands, with $p < .001$ for all types of energy infrastructure (Figure 9). No significant differences were observed between the attitudes of users and non-users toward future developments of energy infrastructure in the Highlands and in the lowlands with the exception of wind farms and power lines in the Highlands. Non-users of the Central Highlands were less negative toward wind farms in the Highlands ($M = 2.21$, $SD = 1.25$) than users ($M = 1.90$, $SD = 1.10$), $t(238.64) = 2.22$, $p = .028$. Similarly, non-users were less negative toward power lines in the Highlands ($M = 2.00$, $SD = 1.05$) than users of the Central Highlands ($M = 1.70$, $SD = 0.92$), $t(307) = 2.67$, $p = .008$.

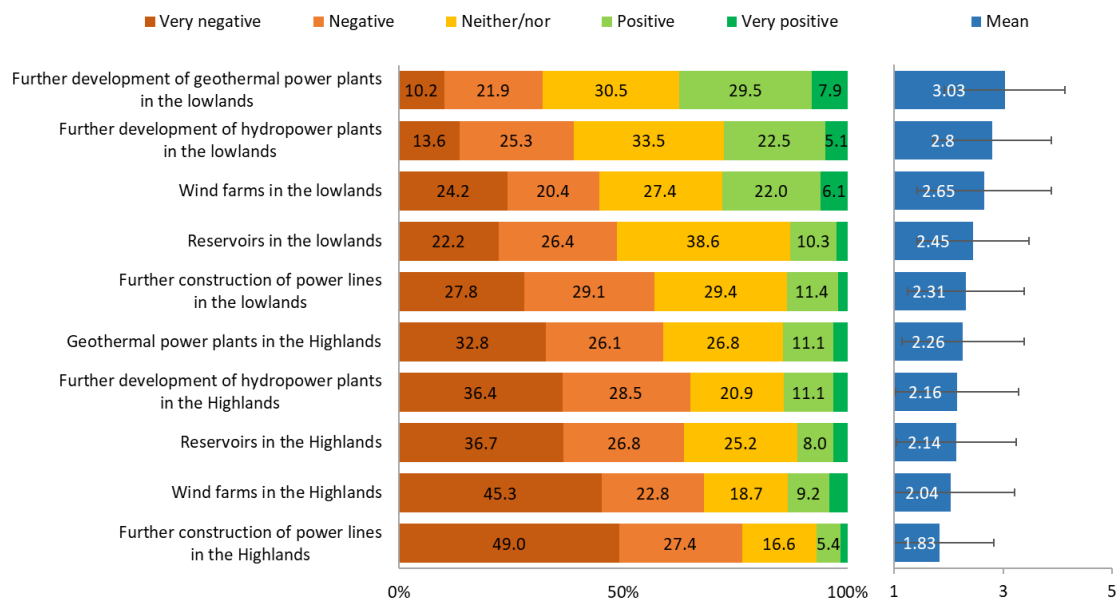


Figure 9. Attitudes toward future developments of energy infrastructure in the Icelandic Central Highlands and in the lowlands.

Simple linear regression tests revealed that stronger pro-environmental attitudes of participants lead to more negative attitudes toward all types of energy infrastructure except for wind farms in the lowlands (Table 5).

Table 5. Effect of environmental attitudes on attitudes toward future energy infrastructure development in the Icelandic Central Highlands and in the lowlands.

Item	β	p
Further development of geothermal power plants in the lowlands	-.294	p<.001
Further development of hydropower plants in the lowlands	-.330	p<.001
Wind farms in the lowlands	.017	p=.804
Reservoirs in the lowlands	-.274	p<.001
Further construction of power lines in the lowlands	-.153	p=.017
Geothermal power plants in the Highlands	-.336	p<.001
Further development of hydropower plants in the Highlands	-.449	p<.001
Reservoirs in the Highlands	-.444	p<.001
Wind farms in the Highlands	-.228	p<.001
Further construction of power lines in the Highlands	-.309	p<.001

Attitudes toward national park proposal

When the participants were asked for their opinion on the parliamentary proposal for a Central Highlands National Park, 44% expressed a negative opinion, while 39.6% were in favor of the proposal (Figure 10). The opinion of 6.8% was neither positive nor negative, and 9.6% described their opinion as both, positive and negative. Significant differences were observed in the opinions of users and non-users of the Central Highlands, with users being significantly more negative toward the parliamentary proposal, $t(243) = 2.473, p = .014$.

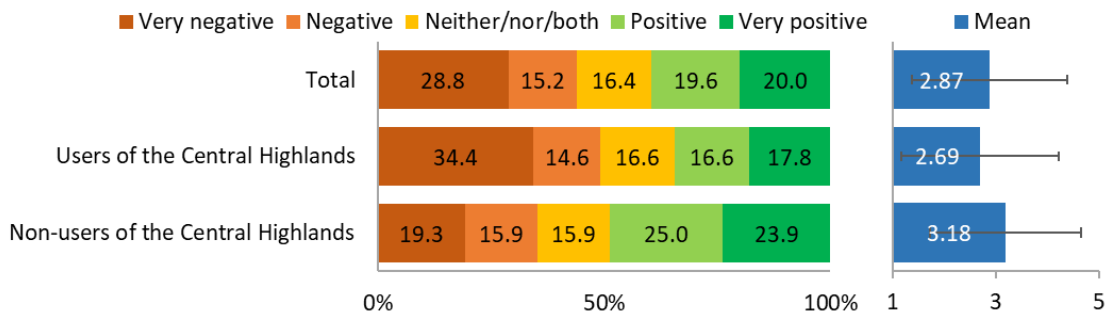


Figure 10. Attitudes toward the parliamentary proposal for a Central Highlands National Park among users and non-users of the Icelandic Central Highlands.

A simple linear regression test revealed a positive effect of environmental attitudes on the participants' opinion on the parliamentary proposal for a Central Highlands National Park ($\beta = .383, p < .001$).

When asked how the Central Highlands National Park should be managed, 79.2% of participants stated that it should be managed by a body of various stakeholder representatives, such as the state, local municipalities, tourism, environmental NGOs, farmers, and recreational organizations. In answer to an open question about the most important issues for the tourism industry which should be taken into consideration in establishing a Central Highlands National Park, 22% of participants mentioned ensuring access to the area. The other most mentioned issues included nature protection (20.4%), provision of infrastructure and services for visitors (15.7%), inclusion of stakeholder opinions in decision-making related to the management of the national park (15.2%) and ensuring opportunities for a range of tourism activities (11.0%) (Figure 11).

Participants were also asked an open question concerning how establishing a Central Highlands National Park would affect the tourism industry in Iceland. The largest proportion (27.5% of participants) believed that the effects would be generally positive, while 14.5% described them as generally negative (Figure 12). More specific effects included, among others, increased attractiveness of the Central Highlands to tourists (mentioned by 15.0%), more rules, regulations, and control in the area (10.5%), limited access to the area (7.5%), more nature protection (5.5%) and more services, infrastructure and information for tourists (4.5%).

Interestingly, while some participants described the effects of establishing the Central Highlands National Park on the tourism industry as positive, others perceived the same effects as negative or neutral (Figure 12).

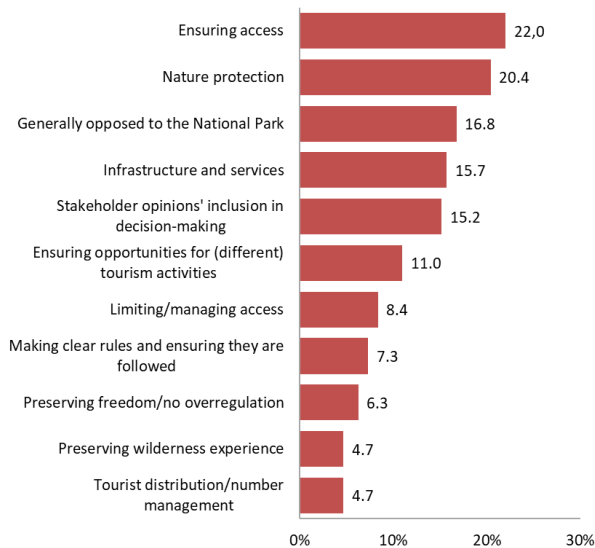


Figure 11. Most important issues for the tourism industry which should be taken into consideration in establishing the Central Highlands National Park.

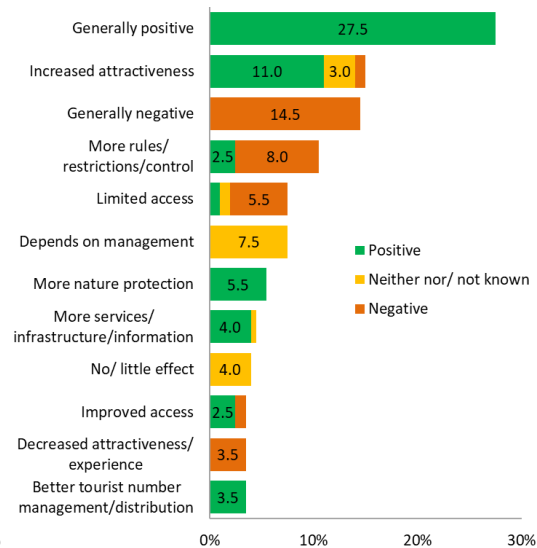


Figure 12. Potential effects of establishing the Central Highlands National Park on the tourism industry in Iceland.

Discussion and conclusions

Wilderness value for the tourism industry

In Nordic regions, the tourism industry increasingly relies on wilderness areas to meet the growing interest in nature-based tourism and outdoor activities (Fredman & Margaryan, 2021). Concurrently, in Iceland and other Nordic countries, tourism is becoming an important contributor to regional development by providing jobs and income to local communities (Ianioglo & Rissanen, 2020; Sæþórsdóttir & Hall, 2019), making the tourism industry one of the critical stakeholders in the discussion on wilderness use. However, rising visitor numbers to relatively undeveloped natural and wilderness areas and consequently increasing demand for more and different recreational options pose a threat not only to the environment of these areas, but also to the wilderness experience (Duffy, 2015; Saarinen, 2019; Sæþórsdóttir, 2010b). Furthermore, increasing use of natural areas for tourism challenges traditional meanings of wilderness and brings new meanings to natural places thereby complicating the decision-making related to the management of these areas (Hall et al., 2008; Saarinen, 2005). To identify and mitigate conflicts with other wilderness uses and wilderness conservation, it is essential to incorporate the meanings and values wilderness areas contain for the tourism

industry within the planning strategies of wilderness areas. This emphasizes the importance of research investigating the value of wilderness for the tourism industry and compatibility between the preferences of tourism service providers and sustainable wilderness use.

This study has provided much needed insights into the views of travel agencies and day tour providers operating in Iceland, where the country's wilderness has long been one of the main attractions for tourists. The employment of the NEP scale in this study shed light on the reasoning behind some development preferences. The results emphasize that the Icelandic Central Highlands, used by almost 60% of the surveyed tourism service providers, are an important venue for the tourism industry. Current users of the area perceive this importance as significantly higher than non-users. However, over 70% of both users and non-users believe that the area will become increasingly important for the tourism industry over the next ten years. Furthermore, almost half of the companies which do not currently use the Central Highlands stated that they are likely to operate their businesses in the area in the future. This stresses that the development decisions taken for the Central Highlands can influence tourism beyond the borders of the area, emphasizing the need for holistic approaches to wilderness management. As noted by Saarinen (2021), wilderness areas should be viewed as parts of wider regional and global networks, and their relationships with other areas and communities should be taken into consideration.

Development preferences of the Central Highlands and their relationship with environmental attitudes

The tourism industry is highly diverse, as well as the preferences, expectations and motivations of tourists visiting natural areas. They are related to the meanings assigned to these areas, which are created not only during, but also before tourists' visit through various channels, for example, (social) media, marketing, advertising or word of mouth (Lichrou & Panayiotopoulos, 2021; Urry & Larsen, 2011). Previous studies focusing on the preferences of visitors to the Central Highlands have shown that support for further infrastructure developments in the area is generally low (Sæþórsdóttir & Hall, 2018, 2021; Tverijonaite et al., 2019). Accordingly, most tourism service providers participating in this study prefer basic tourism infrastructure, while only a few prefer more comfortable infrastructure such as hotels and food services. The negative relationship between the environmental attitudes of tourism service providers and the perceived need for hotels and food services suggests that such infrastructure is perceived as negatively impacting the surrounding environment and unsuitable in wilderness areas.

Despite identifying some positive effects of existing power plants in the Central Highlands, such as improved access to natural areas, provision of green energy, and energy infrastructure as a tourist attraction, most tourism service providers perceive further energy infrastructure

developments in the Central Highlands as negative. This is in line with previous studies focusing on tourist attitudes (Sæþórsdóttir, 2010b; Sæþórsdóttir & Hall, 2018; Tverijonaite et al., 2019), as well as the views of tourism service providers (Sæþórsdóttir & Hall, 2019). Furthermore, the results show that energy-related developments in the wilderness settings of the Highlands are perceived significantly more negatively compared to energy developments in the more developed lowlands of Iceland, in line with the findings of Sæþórsdóttir and Hall (2019).

Notably, a negative relationship between environmental attitudes and attitudes toward future energy developments in the Icelandic Central Highlands contradicts the findings of studies conducted in other countries, showing that higher pro-environmental attitudes lead to greater acceptance of renewable energy infrastructure (Ntanos et al., 2017; Ntanos et al., 2019). The findings of this study suggest that the negative impacts of energy infrastructure on the environment of the Icelandic Central Highlands and on the wilderness value of the area are perceived as more important than the positive contribution of such infrastructure to climate change mitigation. This emphasizes the importance of the context surrounding renewable energy infrastructure in shaping the attitudes and perceptions of stakeholders. Furthermore, in line with previous research (González et al., 2016; Segreto et al., 2020; Tverijonaite et al., 2022), the findings demonstrate that it is crucial to take these contextual factors into consideration when planning energy infrastructure developments. In Iceland, almost 78% of all electricity produced in 2019 was used by multinational heavy industry companies, and 82% of this electricity fueled aluminum smelters (NEA, 2020). Such a situation raises doubts among tourism service providers regarding the purpose of energy developments in the country (Sæþórsdóttir et al., 2021; Tverijonaite et al., 2022), which is likely to be one of the factors that led to the observed negative relationship between environmental attitudes and attitudes toward renewable energy developments. The results of this study support previous research (Øian, 2013; Saarinen, 1998, 2019), stressing the importance of contextual discourses and of considering place-specific settings and socio-cultural relations when deciding on management approaches to wilderness areas.

Remoteness is among the key indicators of wilderness quality (Hall, 2007; Lesslie & Taylor, 1985) and an important dimension of wilderness experience (Johnson et al., 2005; Sæþórsdóttir, 2010b). In line with that, most tourism service providers surveyed in this study prefer the roads of the Central Highlands to be kept in their current state or better maintained, while the perceived need for building up and paving the roads or bridging rivers is significantly lower. These preferences differ significantly between users and non-users of the Central Highlands, with companies currently not using the area being more in favor of road developments. Such findings suggest that current road conditions in the Central Highlands deter some companies from operating in the area. Road improvements are therefore likely to

lead to increased use of the area and related changes in the type of tourism appealing more to service-oriented visitors, observed in more accessible natural areas (Sæþórsdóttir, 2010a; Tverijonaite et al., 2018). Thus, keeping the roads difficult to drive is one of the ways to limit tourist numbers in the Central Highlands. Limiting tourist numbers was perceived as somewhat important by around a third of the tourism service providers, while another third perceived this as important or very important, highlighting the wilderness value of the area for their businesses. Furthermore, the positive relationship between the environmental attitudes of the participants and the importance they accorded to limiting tourist numbers shows that the reasoning for this is not only based on the potential impacts of crowding on tourist experience, as it likely also relates to potential environmental impacts.

Ensuring access or sustainable wilderness management?

While the environmental attitudes of tourism service providers were positively related to their attitudes toward the parliamentary proposal for a Central Highlands National Park, the participants' attitudes toward the national park proposal were strongly divergent, with users of the Central Highlands being significantly more negative toward the proposal. When discussing the issues which should be considered when establishing a national park, the most often mentioned issue was ensuring access for the tourism industry, while nature protection was the second most important. Limited access and increased regulations were mentioned as the potential effects of establishing a Central Highlands National Park. Most perceived these as negative, but some identified the same effects as positive. Such findings suggest that ensuring access to the area and opportunities for tourism activities is of high importance for the tourism industry, and tourism service providers are concerned about the uncertainty aspect related to establishing the national park. Similar concerns were observed among the Icelandic general public regarding the possibilities for outdoor recreation by Bishop et al. (2022), who suggested that such concerns are likely to be linked to previous experiences with access restrictions and management issues in existing national parks (Huijbens & Benediktsson, 2015; Petursson & Kristofersson, 2021).

The analysis of the NEP score revealed that the attitudes of over 87% of the surveyed tourism service providers were pro-environmental. Thus, their Central Highlands development preferences might be expected not to contradict sustainable management of the area. In general, tourism service providers' preferences seem to be in line with wilderness preservation: they prefer to keep the tourism infrastructure in the Central Highlands simple and to protect the Highlands from road and energy infrastructure developments. However, while recognizing the importance of limiting tourist numbers to the area, some tourism service providers are not willing to compromise their own access. Thus, concerns about profit reductions appear to be prioritized over the sustainable management of wilderness, despite it being an important

resource for the tourism industry. This raises questions as to how tourism service providers perceive the impacts of tourism and of their own activities on the natural environment and its wilderness value, and how they view the dilemma of using wilderness areas for tourism and ensuring their sustainable management.

Ensuring sustainable wilderness management in combination with tourism and recreational activities is a difficult task (Baker & Fick, 2022). As emphasized by Williams (2002, p. 125), “There is no single objective condition of the landscape, such as wilderness, with inexorable implications for management.” The meanings, uses and management preferences of wilderness are diverse and keep evolving and changing, thereby challenging decision-making (Hall, 2002; Saarinen, 2019). This study focuses on the preferences of travel agencies and day tour providers. Thus, it only covers a fraction of the Icelandic tourism industry and does not represent the preferences of the industry as a whole. Other types of tourism businesses might assign different meanings and values to the Central Highlands and its wilderness. Thus, they might have different preferences for management and development of the area, pointing to the need for further research.

To preserve the wilderness values and meanings ascribed by tourism stakeholders, it is essential to include their interests in decision-making related to management of wilderness. Willingness to participate in the discussion on the future land use and management of the Central Highlands was expressed by most tourism service providers in this study. In line with that, almost 80% of tourism service providers stated that the proposed National Park should be managed by a body of various stakeholder representatives, such as the state, local municipalities, tourism, environmental NGOs, farmers, and recreational organizations. Collaborative approaches which incorporate multiple stakeholder interests, concerns and preferences within decision-making are likely to be effective in anticipating and mitigating conflicts between various stakeholder groups.

Increasing tourism in wilderness areas is likely to lead to changes not only in the natural environment of these areas, but also in the socially constructed values, meanings and uses of wilderness (Hall et al., 2008). Therefore, ensuring sustainable coexistence of wilderness conservation and tourism might require managing potential threats related to tourism activities by employing approaches which include limiting tourism growth in wilderness (Saarinen, 2021). While deciding on such approaches, however, stakeholder consultation is essential to ensure their support for decision-making and for wilderness conservation. Tourism service providers are among the key stakeholder groups in wilderness management. Thus, better understanding of their perceptions and preferences is important for facilitating sustainable wilderness planning.

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