

Háldi Transboundary Area – Basic Information



Photo: Seija Olkkonen

This information describes the Háldi Transboundary Area which is a target area of cooperation between the partners Metsähallitus, Board of Reisa National Park and Ráisdottarháldi Landscape Protection Area and Halti Nasjonalparksenter. In addition, it includes information on the surrounding Háldi region, which is connected to the Háldi Transboundary area by nature, cultural heritage and land use.

The information is compiled by the partners and can be used when sharing information about the Háldi region adapted to their information medias. The partners are free to share the information to their stakeholders, following the copyrights when mentioned.

The information is saved in common Teams sharepoint and is available for the Partners to use and update.

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Háldi region information

1 Háldi Transboundary Area

Háldi region is a natural area characterized by minimal technical interventions, and has today primarily two anthropogenic functions. One is Sami nomadic reindeer husbandry and the other is outdoor recreation for locals and visitors. Both have strong traditions and legal status. These two main interests are both overlapping and parallel and interfere with or disturb each other. The interconnections of these and their influence on nature is a challenge when managing protected areas.

1.1 Geographical range of the area

On the border between Finland and Norway, the mountain massif Ráisduottarháldi rises. “Háldi” is the name of the two peaks of the massive, one in each country. The Finnish peak is the highest point in the country, at 1324 m above sea level and is situated in Käsivarsi Wilderness Area. The Norwegian peak is higher at 1361 masl. and is situated in Ráisduottarháldi Landscape Protection Area. These protected areas, together with Reisa National Park make up the official Háldi Transboundary Area.

However, the Háldi region is larger and has no precise borders. The region describes the geographical area around Háldi mountain with natural and cultural connections between coast and inland. Within this geographical area, there are complex compositions of natural and cultural qualities, history and culture, way of life and management practises which today is divided by national borders of Finland, Norway, and Sweden.

The core of the Háldi region is composed of the protected areas; Reisa National Park and Ráisduottarháldi Landscape Conservation Area in Norway and Käsivarsi Wilderness Area and some minor protected areas in Finland – total of 886 km² in Norway and 2 213 km² in Finland. This area is referred to as “Háldi Transboundary Area” or simply “Háldi TBA” in this document.



Figure 1: Overview of the geographical range of the Háldi region

1.2 Access to Hálđi region

The Hálđi region is a road less area. Most of the area has free access based on “everyman’s rights”, which are quite similar in Finland, Norway, and Sweden. In principle, this includes free access for people when not using motorized vehicles like ATV’s or snowmobiles. Permission from managers or landowners is necessary when using any motorized vehicles in the area. A marked snowmobile trail runs through Käsivarsi Wilderness Area. Private tourism companies offer transport services on snowmobiles, in aircrafts and in river boats to the area. Details can be found in chapter 2 and 6.

There are some recommended entrance points to the area, connected to signed trails and recreational infrastructure. On the Finnish side, Kilpisjärvi town is the main gateway for visitors to the Käsivarsi Wilderness area and trips to the Hálđi mountain and Nordkalott Trail. Most visitors in Kilpisjärvi take a day trip on marked trails up to Saana fell or to the Three Nation's Border Point. Access points with information posts can be found at the Kilpisjärvi Visitor Centre, the Malla trail access point and at camping sites.

From Kåfjorddalen the area can be entered via Birtavarre by the E6 or Ankerlia 8 km further in the valley. From Ankerlia it is possible to drive for 20km up to Guolasjávri on a private construction road which is open. It is not guaranteed that the road is drivable by car every year due to erosion, especially after hard winters the road can be in poor condition. If the road is open and in good condition it is possible to drive by car all the way to the end by lake Guolasjávri. From here it is possible to hike to the Hálđi top 7 km away, or hike to Reisadalen or further into the mountains. In winter, there is a public snowmobile trail that starts at Ankerlia and connects to trails from Reisadalen.

From Storslett there is a public road up to Reisadalen with several access points. For excursions in the Reisadalen Valley, there is an official Visitor Point Ovi Raishiin by Saraelv – Øvre Kirkestilla with fireplaces, viewpoint, cabins, and information posts. Riverboat tours to the upper Reisaelva river also start in this area. From here it is also possible to access the Nordkalott Trail towards Kautokeino or towards Somájávri and further on to Kilpisjärvi, or detour towards Guolasjávri in Kåfjorddalen. In winter there is a public snowmobile trail from Gahperus to Somájávri with the opportunity to take a detour to Kåfjorddalen-Ankerlia.

From Kautokeino, Reisa National Park can be accessed at Ráisjávri lake, either by walking along the Nordkalott Trail or driving via Biedjovággi road (old construction road to an abandoned copper mine) to Leamšejávrrit and hike from there to Ráisjávri. In winter there is a snowmobile trail along the construction road that goes all the way to Svartfoss in Reisadalen.

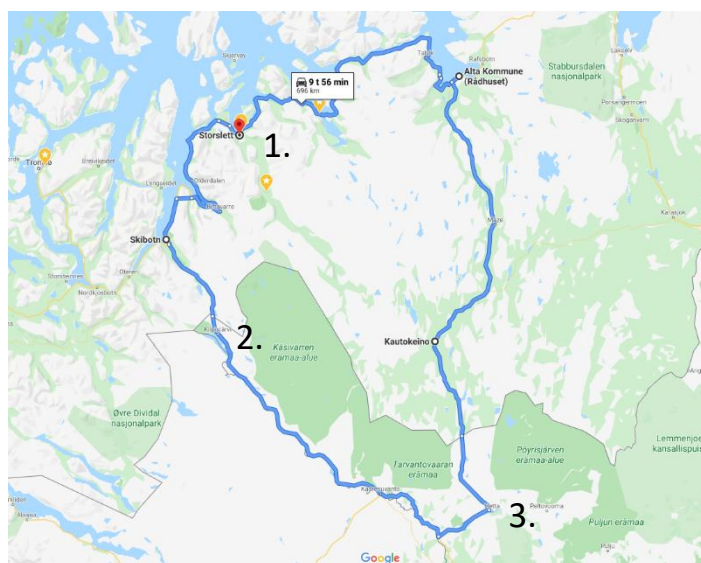


Figure 2: Road map around the Hálđi area with the three visitor centres along the way

Following the main roads by car, it is possible to take a round trip and reach all the entrance points to the Hálđi Transboundary Cooperation area in less than 10 hours. This is a good chance to travel through an arctic landscape of the continental Europe, from Atlantic coast to open mountain plateaus and boreal forests.

Along the way, there are three Visitor Centres presenting the nature and culture of the Hálđi region:

1. Halti National Park Center in Storslett
2. Kilpisjärvi Nature Center
3. Fell Lapland Nature Center in Hetta

1.3 Land ownership and rights

Most of the Håldi region is composed of land and waters owned by the states of Norway and Finland, including all Protected Areas. Small private areas are located around communities and in river valleys.

The Sámi are indigenous people living in the Håldi region. They have special land use rights connected to their culture. Reindeer husbandry is the most important cultural symbol of the north Sami tradition. Their rights in practising culture and traditional livelihood are protected by national legislation against major negative effects of other land use. All reindeer in the Håldi region are owned by local Sami families and organized in traditional siida system. More about this in Chapter 3.2.

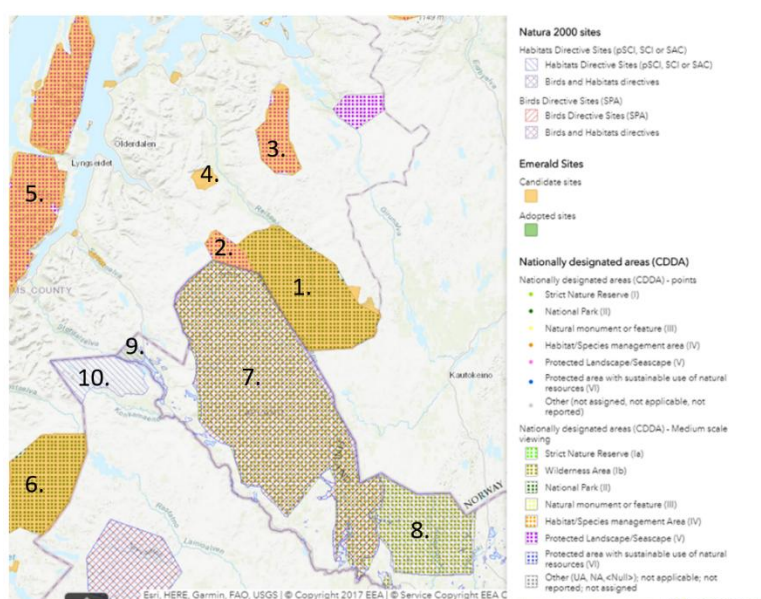
Local people may also have some specific rights in land use, regarding e.g., fishing, hunting and terrain vehicles. People visiting the Håldi region have free access to nature through the legislation “everyman’s rights”. There may be some restrictions regarding e.g., protected areas, and differences between Finland and Norway. More about this in Chapter 4.

1.4 Protected areas

On the Norwegian side Reisa National Park (1) and the adjacent Ráisduottarháldi Landscape Conservation Area (2) are located on the Border between Norway and Finland. Reisa National Park is a candidate for the Emerald Network which is a network of areas of special conservation interest. In the vicinity there are several protected areas of different status: Navitdalen Landscape Conservation Area (3) and Jávreoavvit Nature Reserve (4) are the nearest ones. Lyngen Alps Landscape Conservation Area (5) is a major one and most famous. Øvre Dividal National Park (6) is situated on the border of Sweden south of Kilpisjärvi. There are also some smaller nature reserves on the coast: Reisautløpet, Gearpmesorda, Lindovara, Lullefjellet, Røykeneselva, Skibotnutløpet and Spåkenesøra.

On the Finnish side, Käsivarsi Wilderness Area (7) is the largest, including small Ánnjaloanji Strict Nature Reserve and Valtijoki Esker Protection site. The Wilderness Area extends to Lätäsenon-Hietajoen Protected Area (8). The water bodies of Käsivarsi are part of the Torne and Muonio Rivers Natura 2000 site. Malla Strict Nature Reserve borders to both Norway and Sweden (9). Saana fell in Kilpisjärvi is surrounded by three small, protected areas: Saana Nature Reserve, Saana Herb-rich Forest Reserve and Shore Protection Site of Käsivarsi Fell Lakes.

On the Swedish side, Pältsa Natura 2000 site (10) is located on the most northern tip of Sweden on the border between Norway and Finland.



Together in the Håldi region, Pältsa Natura 2000 site in Sweden and Dividalen National Park in Norway form a nearly continuous belt of protected areas with a total length of 130-140 km, covering almost 50 % of the region.

Figure 3: Overview of the location of the protected areas in the Håldi region

1.4.1 Governance and management of protected areas

In Finland all state-owned land, including protected areas, is managed by Metsähallitus, an independent enterprise owned by the state of Finland. Metsähallitus has a nation-wide regional organization, divided to independent business (forestry and **property development**) and public administration departments, with common Board and Director General. Public administration tasks include management of protected areas, supervision, protection and conservation of natural and cultural heritage, maintenance of public recreational infrastructure and game and fisheries services. The Håldi region is managed by *Fell Lapland Park Unit*. The head office is in Hetta and staff working in the Håldi region has a base in Kilpisjärvi. Official visitor centres are also run by Metsähallitus.

In Norway the management of land, natural resources and protected areas are more complex and divided through three levels of management: state, regional county, and municipality. After 2010 the management authority of the major protected areas was delegated to local boards with elected members from local municipalities, the Sami parliament, and the county council. The national park board for Reisa National Park and Ráisduottarháldi landscape conservation area has responsibility for several protected areas. The board employs one or more protected area managers, who are the secretary of the board and in charge of operational work and the management of the parks including planning, administration, management etc. Cooperation with local, regional, and national stakeholders and authorities is of great importance.

Halti National Park Center is not organized under the Reisa National Park Board and has no formal role in the management of the protected areas. They are independent units with a cooperation agreement with the Norwegian Environment Agency on information work about the national park. There is strong cooperation between the centres and the national park board at the local level.

The responsibility for the legal supervision of the parks is the Norwegian Nature Inspectorate (Statens naturoppsyn, SNO) which is a part of the Norwegian Environment Agency. There is good cooperation on local level between park management and nature supervision.

1.4.2 Classification and zoning

In IUCN classification of protected areas, Käsivarsi Wilderness Area belongs to category IB (wilderness area). It is included in the European Natura 2000 network of protected areas as a Special Protection Area (SPA) according to the Birds Directive and Sites of Community Importance (SCI) according to the Habitat Directive. European Union sets the objectives for protection of biotopes and species listed in the directives. Malla Strict Nature Reserve and Saana Nature Reserve belong to Natura 2000- network also. In addition to that, most of the Håldi region belongs to a National Protected Landscape.

Käsivarsi Wilderness Area is divided into three management zones: remote (wilderness) zone, recreational zone and restricted zone. Recreational zone covers 17 % of the area and is composed of several “lanes” following the Nordkalott Trail, snowmobile trails and big rivers. Visitors and private tourism services are guided to this area by recreational infrastructure, information and access. 83 % of the area belongs to remote zone. There is free access, but visitors are not actively guided to the zone and development of new recreational infrastructure is not allowed. Traditional use and certain tourism services suitable to the wilderness character are allowed. Ánnjaloanji Strict Reserve of 89 hectares is the only restricted zone where access is not permitted. In Malla Strict Reserve on the other side of Lake Kilpisjärvi, public access is limited to signed trails, except when the area is covered by snow.

Reisa National Park and the adjacent Ráisduottarháldi Landscape Conservation Area have an IUCN classification in category II national park and category V protected landscape. Each area has its own regulations that defines the aim of the protection, rules and activities that are allowed. The management plan is a specification of this.

Zoning in Reisa National Park is not formally defined, but there are given guidelines in the management plan on the level of facilitation that is planned in different areas. The maps below illustrate land use and management focus in the parks.

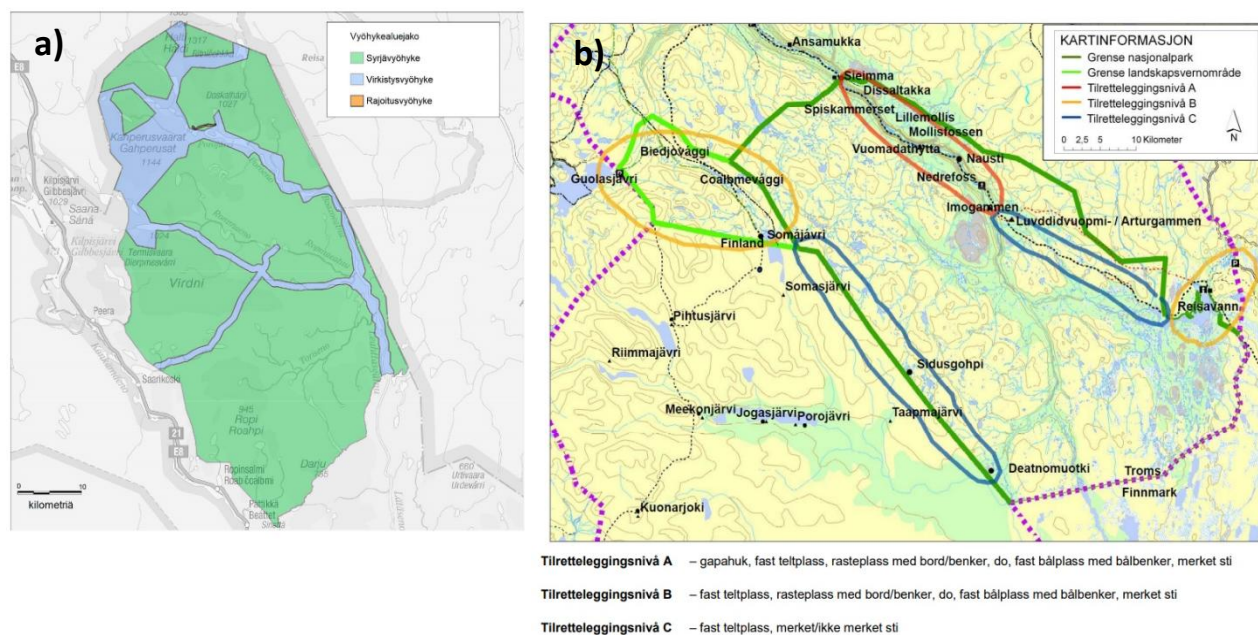


Figure 4: a) The blue areas mark the zones where Metsähallitus focuses recreational activities in Käsivarsi Wilderness Area in Finland. b) The circled areas mark the areas where recreational infrastructure is developed in Reisa National Park in Norway. Zoning of Käsivarsi Wilderness Area and Reisa National Park+ Ráisdottarháldi Landscape Conservation Area.

1.4.3 Management objectives and plans

Käsivarsi Wilderness Area has an official management plan, based on the Wilderness Act. The current plan was revised recently and accepted by Ministry of Environment in 2020.

Management Plan includes main values, threats, objectives, measures of protection and use of the area for the next 10 years. The plan must be followed by management. It does not include guidelines concerning visitors and other users of the area. These instruction and guidelines can be decided and published separately by Metsähallitus, if necessary. Such official guidelines do not exist for Käsivarsi Wilderness Area.

There is a draft of a management plan for Reisa National Park and Ráisdottarháldi Landscape Conservation Area, prepared in 2014. Since then, it has been in reviewing- and confirmation process in state administration.

2 Landscape and nature

2.1 Geology and landscape

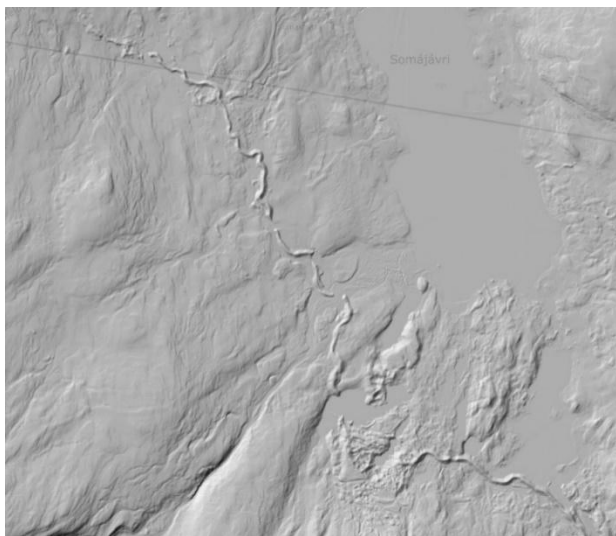
The landscape in Háldi region rises from sea level up to high mountains over 1300 masl. The European Environment Agency defines the Háldi region to be in the alpine zone in relation to the biogeographical regions of Europe which border to the boreal zone in the east, and the arctic zone in the north and west.

There is no common classification of landscape between Norway and Finland. Adding the landscape classifications used in Finland and Norway, it can be divided into three distinctive sub regions: Mountains, or locally “fells”, plateau or “vidda” in Norwegian, and river valleys.

The bedrock in the Háldi region is divided into two different types. On the vidda plateau in central and eastern parts of the area, the bedrock is very old. It was formed 1800 to 2700 million years ago, long before the tectonic plates pushed Fennoscandia to its current position. The mountains in the western part consist of

younger bedrock formed 600 to 400 million years ago, when higher mountains were created as the tectonic plates collided. As the mountains were being pushed upwards, newer rock emerged on top of the older bedrock. This newer rock was schist, which was formed from deposits on the ancient seafloor. The schist, which can withstand the weight of the **overthrust plate**, protected the weathered rock layers beneath it from erosion. Saana, Saivaara and other cliff faces in the area are the edges of the **overthrust plate**. In the steep walls of a side valley to Reisadalen called Avve, the whole geological history is visible in layers.

However, most visible geological formations are much younger. They originate from the various ice ages when the whole of Scandinavia was covered with ice. Towards the end of the latest Ice Age, the continental ice moved from south to north in this area. The highest peaks were the first to emerge from the ice. The melting phase of the continental ice sheet took several hundred years. The top of Haldi was free of ice about 9700 years ago.



Characteristic of the Haldi TBA are visible traces created from the melting of the great inland icecap. The Reisa valley itself is a great example of processes where vast amounts of water carve a spectacular canyon 150 meters deep into the mountains. Other examples are eskers formed by streams of water under the icecap and leaving several kilometres long sand and gravel formations – like a snake in the landscape.

*Figure 5: Example of an esker formation east of Somajávri.
Picture based on LIDAR scanning from www.hoydedata.no*

2.1.1 Mountains

The mountain areas are mainly low- and mid-alpine types situated above the forest line from 500 to 1300 masl. There are several mountain peaks higher than 1000 m. The highest peaks are Ráisdottarhaldi 1361 masl in Norway and Haldi 1324 masl, the highest peak in Finland. There are no higher mountains north of this in Scandinavia.

The mountainous region of Käsivarsi is a very special landscape in Finland, while in Norway it extends to Scandinavian Mountain Range along the border between Norway and Sweden.

Haldi mountains are relatively barren and covered with boulders and large rocks. In Norwegian this type of landscape is called “blokkhav” – sea of stones. In the arctic climate, the formation of rock fields are very common. Temperature fluctuations cause the rock surface to contract, expand and crack. Water freezes inside cracks in the rock and eventually splits them into boulders, which roll to the foot of the fells.

The bedrock of the mountain massif is greyish green, with a reddish-brown surface. The rock type here is partially dunite. This is a slightly reddish rock, which gives the mountain a distinctive hue. Dunite contains the mineral olivine, which is tolerated by few plants. Consequently, large parts of the mountains are free of vegetation. In certain parts, for example in Malla Nature Reserve the bedrock is calcareous and nourishes rich and unique mountain flora. This applies also to the adjacent areas north of lake Guolasjávri.

2.1.2 Plateau

The plateau extends towards east and south from the mountain areas. It is called “vidda” in Norwegian, composed of mountain birch forests, meadows, peatlands, and marshes. A diversity of lakes and rivers also characterise this region. The terrain is gently undulating with sweeping views. It is covered by shrub and low growing trees and bushes. Sprawling ridges and several more notable hills rising to 600 masl. break the flat landscape.

Gneiss is the most common rock type in this old bedrock. It also contains broad belts of mica slate and porous and light rocks. Whilst including a variety of rock types, the landscape’s bedrock is fairly homogeneous. Bedrock is usually covered by till (moraine) and fluvial transported materials like sand, silt, and clay. The thickest till deposits are found in valleys and depressions, while on the fells the till layers are thinner. Near Storslett the layer is measured to be at least 200 meters. Moraine mounds and ridges are usually found in valley bottoms or low-lying areas. In river valleys of the Poroeno and Suppijoki, for instance, hummocky moraine fields extend over several square kilometres.

Waters of melting ice formed several eskers, that are lined from south to north. The most important esker systems are the Munnikurkkio eskers which extend to the Norwegian side along the Rivers Aatsajoki, Toriseno and Poroeno, and the Valtijoki esker system, which leads from the Kaskasjoki River valley via Raittijärvi Lake to Somájávri Lake.

Signs of erosion caused by glacier meltwaters can be found in the ravines between the fells and on fell slopes. Meekonvaara and the fell to the west of it are linked by what is known as a **col channel**. A high number of lateral drainage channels, which are 1 to 3 metres deep and 1 kilometre in length, is also found in different parts of the Wilderness Area.

The plateau does not consist of any typical marshland, but there are stretches of marsh on the flatter areas. Peat bogs constitute the dominant vegetation in these northern marshes.

2.1.3 Valleys

From a distance the Kåfjorddalen valley (Gaivuonvuovdi in Sami) can be seen as a deep canyon. It is narrow and has steep valley slopes and high mountain walls. Sorbmejhoka in Ørnedalen, which descends from the south-west at Ankerlia, has been titled Scandinavia’s largest canyon. It is between 500 and 600 metres deep which stands in significant contrast to the limited water flow. The canyons may have been formed because of very high-water flows at the end of the last ice age. Extensive lakes in the mountains is probably the reason for a lot of water now draining into both the Reisadalen valley, south-east into Finland and running into the sea via the Kåfjord Valley.

The bedrock in the Kåfjorddalen valley is somewhat varied. It is mostly comprised of sedimentary, volcanic, and calcareous rocks. In a broad band, westward from Guolasjávri, it consists of lime marble. South of Guolasjávri, a sharp and significant bedrock divide of transformed **overcast rocks** can be found. These are less calcareous and consist mostly of gneiss and metaarkose deposits. At Ankerlia, there are elements of heavy, metal-rich soil, which gave rise to mining operations here in the early 1900s for the extraction of copper.

In contrast to the flat plateau of vidda, landscape down to the Norwegian coast in the north-west is dominated by magnificent river valleys of Reisadalen, Kåfjorddalen, Manndalen and Skibotndalen.

The landscape of the Reisadalen valley is often described as the chop of an axe in the broad landscape. Over the millennia, the Reisaelva River has cut its way into the mountain range and formed the elongated valley. The landforms here offer great variety and drama. The valley contains rocks from many different eras and is very varied and interesting. The rock walls along the Reisaelva river are very much like a geological history book covering the last two billion years. At the base lies the bedrock of granite and gneiss. On top of a 200-metre-thick layer of sand and clay (the Dividals group), various rocks were pushed into place 400 million years

ago. One can clearly see the distinction between the bedrock, the Dividals group and the covering rocks at the Divide (Avvekløfta).

2.2 Lakes, rivers, and waterfalls

Along the National border between Norway and Finland, the mountain range forms a watershed between rivers that flow into the Atlantic Ocean and the Baltic Sea. Large rivers in valleys dominate the landscape. Major rivers running to Atlantic are Reisaelva, Kåfjordelva, Manndalselva and Skibotnelva. Könkämäeno and Lätäseno are running towards southeast, joining and finally running to the Baltic Sea along the border of Finland and Sweden as river Tornionjoki.

The river Reisaelva (Reisaatnu in Sami and Raisinjoki in Kven), runs about 80 km from Ráisjávri until it reaches the sea, where about half of that distance is in the National Park. Reisaelva has a water catchment area of 2,692 km², most of that above the tree line. This, in turn, means that the river and its tributaries often rise extremely quickly during the spring melt and at times of heavy rainfall. The very name Reisa comes from the Norse verb *risa*, which means “rise”, probably due to the river rising sharply and abruptly. Reisaelva is one of the most valuable rivers for salmon, sea trout and sea char in Troms. The species range and density of benthic creatures in the watercourse is high, even in national terms. Salmon migrate up the river after several years in the sea, while the sea trout and sea char return to the river every year to spend the winter. The watercourse has a large river-based population of sea char, i.e. they spend their entire freshwater phase in the river and do not go up into the lakes.

The main watercourse in the Reisadalen valley is normally wide and open in the northwest towards the coast and gets narrower to the southeast. There are many steep-sided valleys and tributaries that intersect with Reisaelva river on both sides of the main valley. These have given rise to a number of beautiful waterfalls that plunge down into the Reisadalen valley. With a drop of 269 metres, the Mollisfossen waterfall is particularly impressive, and at the mighty waterfall Imofossen, two rivers crash down together in to a canyon.

While most of Käsivarsi Wilderness Area belongs to the Torne-Muonio river basin, the waters flowing to the west from Kahperusvaara are part of the Skibotn river basin. Within the Wilderness Area, a watershed extending from Termisvaara (Dierpmesvárri) to Ropitunturi marks the division between the Lätäseno river basin flowing to the east and Könkämäeno river basin discharging to the southwest. As the height differences are greater here than elsewhere in Finland, there are many rapids and waterfalls also in Käsivarsi. The plateau landscape also includes a wide range of lakes and small creeks. Largest lake in the region is Kilpisjärvi which is long, narrow, and deep like a fjord.

2.3 Arctic climate

The Håldi region is situated mostly inland but is strongly influenced by the Atlantic Ocean and Golf Stream. **The mountain range** forms a natural barrier between maritime climate on the coast and continental climate. The climate in the Håldi region during the winter is cold and stable, while the coastal areas get more rainfall and higher temperatures. Inland, the summer can be warm and dry, while on the coast, there is usually more rainfall and cooler. There can be strong variation during one day between the coast and inland, and weather may change rapidly. This has to be taken into consideration when traveling on road or hiking outdoors.

Kilpisjärvi is the coldest place in continental Europe, with an average temperature of -2,3 °C. The Norwegian mountains limits the effects of the warm Atlantic current, which contributes to the lower winter temperatures. A testimony to this is how the people of Kilpisjärvi - Enontekiö region travel to the coast of Northern Norway to experience the first signs of spring. These first signs of spring are apparent on the coast several weeks earlier. At the same time, the reduced cooling effect of the sea contributes to higher temperatures during the summer. Despite that, the open mountain areas exposed to the wind are cooler. The Norwegian mountains also contribute to providing some protection from Atlantic rain fronts.

The growth season in the fells are short – no more than 100 days a year. The minimum temperature of the growth season is often critical for the survival of plants. The plants in the north have specialised in order to

survive the challenging conditions. Typical strategies of fell plants is to form buds close to the ground, send runners along the ground, produce bulbils, and grow as thick carpets. Many plants have needle-like leaves, which protect them from sub-zero temperatures and drying winds. Fell plants benefit from being perennial and growing along the ground. It is also typical of fell plants to bloom very quickly. Their flower buds are standing by, waiting for suitably warm weather and the right moment to bloom. In the summer, there is 24 hours of daylight. As a result, vegetation can benefit from increased light conditions, which can compensate for the short growing season.

The Håldi massif is a real coastal mountain and acts as a kind of boundary between the coast and inland. Due to the lower precipitation levels, there is also less snowfall in the inner regions, although differences are less in winter than in summer. There is also less wind inland, and particularly it blows less from the north and north-west. At the same time, south-easterly winds can be strong.

2.4 Biodiversity

2.4.1 Biotopes

Treeless tundra is the prevalent vegetation type in Håldi TBA, covering about 70 % of the area. Wind as well as the thickness and duration of snow cover contribute to shaping the tundra vegetation. Oligotrophic mountain heaths are the typical biotope group in the fells. Blueberry, blue heath and dwarf birch heaths are commonly found in areas with deep snow cover on the lower slopes of fells and in depressions. Crowberry heaths become more common closer to the dry and windy summit areas. In some places, the vegetation is so wind-swept that wind-exposed heaths are formed.

Large areas of the mountain plateau and river valleys are covered by mountain birch forests. Coniferous Scot's pine forests can be found only in the Reisadalen valley. Together they cover about 15 % of the area. Scandinavia and Kamchatka Peninsula are the only areas where deciduous trees form the alpine or arctic tree line. This demonstrates the special nature, created in combination of the northern position and the warming effect of the Golf-stream.

Water biotopes include large rivers such as Reisaelva and Lätäseno, numerous smaller ones, minor brooks, lakes, ponds and springs. They cover about 5 % of the whole area. Almost all waters are near their natural state. Rivers are running free from dams and the lakes and brooks are not influenced by major human intervention, which is not common today, not even in Finland and Norway. Although most water biotopes present in the area are not classified as vulnerable, they are highly valuable elements in the ecosystem.

Mires cover about 10 % of Håldi TBA, mainly in the inland plateau. They can be divided fifty-fifty into aapa and palsa mires. Especially the latter, presenting a form of permafrost, is a very special biotope and vulnerable due to climate warming.

2.4.2 Flora

The flora and fauna in the Håldi region are quite well known since Kilpisjärvi Biological Research Station has surveyed and monitored the area since 1963. This is especially the case for vascular plants, birds, mammals, and butterflies (lepidoptera).

The Håldi mountain range is famous for calcareous bedrock promoting growth of numerous plants that are rare, especially in Finland. Many of them are classified as vulnerable on both sides of the border. Glacier Buttercup (*Ranunculus glacialis*), Eightpetal Mountain-avens (*Dryas octopetala*), Arctic Bellflower (*Campanula uniflora*), Arctic Arnica (*Arnica angustifolia*), Alpine fleabane (*Erigeron borealis*) and Lapland Rosebay (*Rhododendron lapponicum*) and many other arctic plants grow in these fells. Limestone feeds several less eye-catching moss, lichen, and fungi species. Altogether, about 100 species are vulnerable in Finland, but survey of this flora is not yet complete.

Reisadalen has also been an area of interest for botanists for many years. In the watershed area of Reisaelva, 520 vascular plant species have been registered. This is a large number so far north. There are several

reasons for the rich plant life. Firstly, the bedrock varies from acidic to calcareous and provides the basis for both a **poor** and locally very rich flora. Secondly, the climate has a wide variation within the area which creates favourable habitats for many species. In the northwest, vegetation is influenced by a mild and volatile coastal climate (sub-oceanic climate), while in the inner and southern regions have a more stable continental climate. It can be illustrated that the average annual rainfall at Sørkjosen Airport is more than twice as high as in Kautokeino, and that the average temperature is considerably higher on the coast than inland.

Inland climate and relatively high summer temperatures means that several southern and south-eastern species have their northern border here. A combination of geography, climate and bedrock means that both Arctic, Eastern, Northern and Southern species meet. Furthermore, the landscape is very varied, with mountain ranges, valleys, and canyons with both north-facing and south-facing slopes, waterways and waterfalls. All vegetation zones from the lowlands to the mountain range can be found here.

Inside Reisa NP (1/3 of the watershed) 385 vascular plants is registered. Of these 17 are listed in the IUCN Red list of threatened species. The most endangered (status EN) are Marsh Saxifrage (*Saxifraga hirculus*) and Kveinhavre (NO)/Lapinkaura (FIN) (*Trisetum subalpestre*).

2.4.3 Fauna

Semi-domestic Reindeer (*Rangifer tarandus*) is the mammal that dominates the Håldi landscape. It is originated from wild reindeer which was common in the whole Arctic. Today, all reindeer in the Håldi region are privately owned by local Sami people. They still migrate following their traditional trails between summer and winter pastures, but inside national borders.

The large carnivores - "Nordic Big Five"; lynx (*Lynx lynx*), wolverine (*Gulo gulo*), brown bear (*Ursus arctos*), wolf (*Canis lupus*) and golden eagle (*Aquila chrysaetos*) occur regularly in the area. In addition, white-tailed eagle (*Haliaeetus albicilla*) can often be seen near the coast. The border and the reindeer fence between countries do not stop these species, and their populations are therefore shared by the Nordic countries. These species are of special interest for management in both Norway and Finland as well as international biodiversity agreements. Their population are monitored and controlled, because of threats and damage to reindeer husbandry and sheep farming.

The arctic fox (*Vulpes lagopus*) is a good example of how vulnerable the Arctic nature in the Håldi region is. It has been a victim of fur hunting in the past and is affected by climate change today. It appears occasionally in the area and is breeds irregularly on the Norwegian side. Last observed breeding in Finland was 20 years ago. The arctic fox feeds on other characteristic mammals in the Håldi region, like small Norwegian lemming (*Lemmus lemmus*) which are well known for fluctuations in populations.

Approximately 100 nesting bird species, where a majority are migratory, have been observed in the Käsivarsi Wilderness Area. During the frigid, snowy winters \in the Käsivarsi region, only a few bird species are able to survive. The emblem of the Käsivarsi Wilderness Area is the rock ptarmigan (*Lagopus muta*), and the close relative the willow ptarmigan (*Lagopus lagopus*) also change their plumage to white for winter. The steep slopes of the Reisadalen valley are important nesting grounds for several birds of prey feeding on them. Species like golden eagle (*A. chrysaetos*), merlin (*Falco columbarius*) and gyrfalcon (*Falco rusticolus*) can be found there.

Typical migrating bird species found in the Håldi region include snow bunting (*Plectrophenax nivalis*), eurasian dotterel (*Charadrius morinellus*), lapland longspur (*Calcarius lapponicus*) and northern wheatear (*Oenanthe oenanthe*) are among the most populous species. Bluethroat (*Luscinia svecica*), the colourful nightingale of Lapland, lives in mountain birch forests. Numerous northern species are breeding in mires and watercourses, like red-necked phalarope (*Phalaropus lobatus*), red-throated diver (*Gavia stellata*), white-throated dipper (*Cinclus cinclus*), long-tailed duck (*Clangula hyemalis*) and Arctic tern (*Sterna paradisaea*). Arctic tern has the longest migration range of all birds, from here to the Antarctic and back.

The vegetation in fell meadows of Hálđi region provides sustenance for many butterfly and moth species, and their juvenile phases depend on certain fell plants. Polaris fritillary (*Boloria polaris*) larva feeds on Eightpetal mountain-avens (*Dryas octopetala*) and Arctic bell-heather (*Cassiope tetragona*). In the Kilpisjärvi area, 340 butterfly and moth species have been observed. Named after the explorer Giuseppe Acerbi, the Arctic tiger moth (*Acerbia alpina*) also thrives on the mountain plateau of the Hálđi region.

The waters of the Hálđi region are cold, oxygen-rich, clear, and **barren**. Main watercourses are running free; Lätäseno to the Baltic Sea and Reisaelva to the Atlantic Ocean, which let anadromous fish like salmon (*Salmo salar*) and sea trout (*Salmo trutta trutta*) migrate up for spawning. Grayling (*Thymallus thymallus*) and northern pike (*Esox lucius*) can be found in brooks and lakes up to 700 metres above sea level. Lake trout (*Salmo trutta lacustris*) live in all running waters. The pearl of Arctic fish, Arctic char (*Salvelinus alpinus*), is specially adapted to cold waters. They attract plenty of fishers to these waters.

2.4.4 Major threats to biodiversity

Inside protected areas, species and their habitats are in principle protected against negative human impacts. Some compromises are made regarding traditional rights of locals and recreational use. Minor constructions are made, related to reindeer herding, facilitation for outdoor recreation and management and supervision of areas and the border. These activities are the main human influence on nature in these areas.

Human impact from outdoor recreational activity is visible through erosion on trails. In the arctic, plants have limited growth time and have less time to recover after impact. The humus and soil are often only a thin layer on bedrock. If vegetation is worn off, water and wind can easily erode the soil, leaving visible impacts on the landscape.

Other direct effects of human activity is disturbance. Some species are more vulnerable to disturbances than others. Birds of prey for example are very vulnerable to disturbances during the nesting period. In general, springtime from March to mid-June is the period wildlife in the Hálđi TBA are most vulnerable to disturbance. Human activity should be adapted to this as much as possible.

Invasive species are potential threats to native species. Their invasion is usually a result of human actions. The invasion of the salmon parasite *Gyrodactylus salaris* is a sad example of this. Although all the fish in the Hálđi region have a common origin after the Ice Age, Norwegian and Finnish waters have been separated by a watershed since then. This has resulted in genetic differences that make the fish vulnerable to certain diseases. The parasite is common and quite harmless on the Finnish side, but lethal to salmon from Arctic Ocean. Fishermen crossing borders from Finland to Norway are obligated to disinfect their fishing gear to avoid the spread of parasites. *G. salaris* has already destroyed the salmon population in the river Skibotnelva.

At the moment, global climate change seems to be the most severe threat to nature in Hálđi TBA, with multiple effects showing over time. The average temperature is rising and there is more snowfall in winter. The tree line is climbing higher, palsa mires are melting and red fox (*Vulpes vulpes*) is invading fells and displacing Arctic fox (*V. lagopus*). Over time this is a direct threat to many biotopes, especially in the high mountains and northern areas, and to their species.

Reindeer grazing has a visual impact on the vegetation, too. They on the other hand, are native to the Hálđi TBA. Reindeer husbandry and Sami culture have statutory rights of land use both in Finland and Norway, including protected areas.

3 Cultural history

3.1 Early settlers

The first settlers probably came to Hálđi TBA soon after the continental ice sheet had receded. It is possible that they may have even lived on the ice-free seashores throughout the last Ice Age. They caught fish in the lakes and rivers and wild deer on the fells, and in summer they picked plants and berries. Pieces of stone tools and flakes left behind from the production, as well as small crumbs of burnt bone have been found

around the settlements. Most of the currently known sites are located near the Nordkalott trail and Čáhkáljávri- and Kilpisjärvi lakes. The pieces of clay pottery found on the shores of Kilpisjärvi were dated to 4,500 BCE. Several iron arrowheads from the Iron Age or the **historic period** have also been found in the Wilderness Area and Reisa National Park. In 2010, a rock painting was found in Sieimma in Reisa National Park, which was dated to around 2,000 BCE, or the Early Metal Age.

Fell reindeer, which was an ancestor to the reindeer, was important for ancient humans. Fell reindeer provided meat for food as well as skins, sinew, bones, and antlers for tools. Hunting pits were mainly used to catch them. Usually, a long line of pits was made in sandy soils that were easy to dig on trails favoured by the reindeer. The same system could contain dozens or even hundreds of pits. Hunting pits were used until the 16th century, and around this time, hunting was replaced by reindeer husbandry. Numerous traces of these pits can be found in different parts of the area. Many other animals were also hunted here, including foxes, wolves, elk, beavers, and Arctic foxes. The main bird species that were hunted included ptarmigans as well as waterfowl. Fishing had an important role in the hunting culture. Huts with an earth floor were built to provide shelter on hunting and fishing trips. A lifestyle based on hunting, fishing, and gathering persisted in the area for thousands of years from the Stone Age until **the historic period**.

3.2 Reindeer husbandry and the Sámi culture

(The sections on reindeer husbandry and the Sámi culture will be discussed with those concerned.)

With old traditions and modern practises, Sámi reindeer herding is the most significant and visible form of land use with historical, cultural, and economic importance. There are several cultural heritage sites, old routes and current infrastructure which tell a story about reindeer husbandry and Sámi culture in the region. Reindeer husbandry families and traditions used to connect the people and nature across the border up until 1852 when the Finnish (then part of Russia) borders were closed by legislation. Later came a reindeer fence following the entire Norwegian/Finnish border.

The Sámi descend from the people who settled in Northern Fennoscandia immediately following the Ice Age 10,000 years ago. No details are known of the ethnic background or language of these prehistoric hunter-gatherers. The ethnic Sámi identity evolved together with the Sámi language when Finnish and Sámi became separate languages around 2,000 BCE. This resulted from cultural change as the two groups of people pursued different livelihoods. The Sámi utilized large areas from around the beginning of the common era till the 11th century. In this period they lived across an area stretching from Lake Ladoga to the Arctic Ocean and from Central Scandinavia to the White Sea.

The wild mountain reindeer became semi-domesticated around 2,000 years ago. The semi domesticated reindeer was then used for meat and for pulling and carrying loads. Reindeer husbandry was first practised on a small scale and it was based on following the animals where they roamed. Gradually the Sámi started actively herding them to the coasts in the summer and to inland fells to feed on lichen in winter, following their natural migrations. Herding required an organised community which gave rise to Sámi village communities, or the *siida* system. The *siida* followed the reindeer migrations, living in different areas in summer and winter. The first written references to large reindeer herds and regular annual migrations, date back to Swedish and Norwegian tax documents from the 16th and the 17th century, which proves that reindeer husbandry already was an important livelihood in that period. Traces of early Sámi reindeer herders include stone walls in Pihtusjärvi (Bihčosjávri) and Birfejärvi (Bierfejávri) which according to estimates, were built in the early 1900s. Numerous traces of fireplaces and hut foundations can be found in the area. Oral transmission also refers to many places of worship. These sacred stones called *seidas* have been documented in Termisvaara (Dierpmesváris) and Somasjärvi (Somasjávri). According to Samuli Paulaharju, Haldi was also a place of worship.

Reindeer herders also engaged in trade, directed both south along the Torne River and north to the Norwegian coast. Traditional marketplaces were Naavuono (Kvænangen), Yykeänperä (Skibotn), Nordreisa and Alattio (Alta). In Finland, trading places included Markkina (Márkan) and Palojoensuu (Bálojotnjálbmi). Sámi reindeer

herders sold animal pelts, skins, furs, fish and similar products, and bought or traded for flour, butter, frieze and broadcloth, tobacco, spirits, tar, silver, cooking pots, pewter dishes, axes, knives, and other bladed tools.

After the Second World War, all Nordic countries tried to integrate the Sámi with the nationwide population, especially through education provided in the national language.

The current Sámi Homeland, Sápmi, is divided between the states of Norway, Sweden, Finland, and Russia. There are nine different Sámi languages. North Sámi (davvisámegiella), which is the most widely spread Sámi language with the greatest number of speakers (20,000 to 25,000) is spoken in the Hålti TBA. In total, there currently are 75,000 to 100,000 Sámi. Their traditional way of life include fishing, gathering, crafts, hunting and reindeer husbandry, where modern methods and tools are used today. This way of life continue to be the basis of the Sámi language and culture. While they still provide the livelihood for some Sámi, most work in other occupations and live outside the Sámi Homeland. In Norway and Sweden, the Sámi have sole rights to practise reindeer husbandry.

The constitutions of Norway, Sweden and Finland acknowledge the status of the Sámi as the only indigenous people in the EU. It includes a right to maintain and develop their language and culture and to pursue traditional livelihoods. The Sámi have the right to use their own language when dealing with the authorities in their Homeland. They also have constitutional autonomy in all states of their Homeland regarding their language and culture, exercised by the Sámi Parliament or Samediggi. Its position and tasks vary slightly in different countries.

3.3 Division of borders

In 1734, an agreement was reached to mark out the border between Sweden (which ruled over Finland) and Denmark (where Norway belonged). Later however, an agreement between Norway and Sweden in 1751 (the so-called Lappekodusillen) provided the rights to herd reindeer across the border. When Sweden lost the Finnish War, (part of Napoleonic wars), Finland was annexed to Russia as a grand duchy in 1809. The border crossings remained open, however, and Sámi reindeer herders travelled with their animals from inland winter pastures to spend the summer on the coasts of the Arctic Ocean, returning inland for the winter.

The borders between Norway and Finland were closed in 1852 and between Sweden and Finland in 1889, putting a stop to the free movement of the reindeer. This policy was finalised by building a reindeer fence on the border in 1957. The closing of the borders divided the Sámi Homeland into three parts and ended the reindeer herders' annual migrations between the countries. In Norway and Sweden, the siida system and the practice of herding the reindeer between the inland areas and coast across the border continues today. The closing of the border brought about a crisis in the reindeer husbandry, resulting in extensive rearrangements of pastures and migrations, especially in Finland. A system of reindeer herders' cooperatives, which was different from the siida system, also evolved in Finland and was made official in 1898. Practices of reindeer herding based on family ties continued in the area of Käsivarsi cooperative until the 1960s. While the reindeer have mainly grazed in natural pastures also after this date, reindeer herders now live in permanent settlements.

3.4 Migration of the Kvens

Historically, the whole area around the Gulf of Bothnia was referred to as Kainuu and those who lived there were therefore referred to as the Kainu people. The Kalix River is still known today as the Kainuunjoki in the local dialect. Already hundreds of years ago people travelled from this area along the rivers to Ruija for late winter sea fishing. Before midsummer, they returned home to work the land. In Norway, these people were known as the Kvens and their language, which evolved from Finnish, was called the Kven language. Some of them settled permanently to farm on the coast. Years with crop losses, strong population growth and wars, increased the migration from Finland to Norway. The peak years were 1865-1868, a period where Finland and Sweden were affected by bad harvests and famine. Because of this, the Norwegian coast developed into a meeting place for three cultures: Norwegians, Sami and Kvens shared the area and its resources as far as we know in a peaceful coexistence.

In addition to farming, the Kvens brought along new skills and industries such as log building and tar-burning. Vast quantities of tar was used, mainly to treat wooden ships but also ropes and fishing nets. Additionally, it was used medically. Tar-burning required pine forests, peat and a transport route, and the Reisa valley offered all three. Building and tending a tar pit took skill and plenty of labour. It is likely that the area had hundreds of tar pits. The remains of which can still be seen on the slopes of eskers and depressions. Remains of the huts the tar-makers, hunters and fishers built for themselves can still be found in many places. Traditional building techniques and materials continue to be used at the rest areas.

Copper ore was discovered in Kåfjord in the late 19th century, and a mine, a smelting plant, a port, and an entire mining community was established in Ankerlia up in the valley 10 km from Birtavarre. Mining in the harsh conditions continued until 1919, and in the peak period, the mine employed 250 workers representing all nationalities of the North-Calotte region. The ruins of the mining community can still be visited in Ankerlia. Copper ore was also extracted in Moskuvággi (Moskodalen) in Raisinvanka during the same period. There were also mines in Oksfjorddalen and Kåfjord near Alta. The mining industry was also connected with the Kven settlements, as they were skilled in the trade of mining.

In the late 19th century, nationalist idealism resulted in efforts to stifle minority cultures in all Nordic countries. The minority languages of Sámi and Kven were a particular focus for these attempts, which continued until the 1960s. The Kven culture survived, however, and has left its mark in this area in many ways. The language of the local inhabitants is still influenced by place names, words and proverbs that originated from the Kven language. Their culture also shows Finnish influences in other areas. The tar-making skills and the tradition of bathing in the sauna have been preserved, and the older generation is familiar with the Finnish food heritage. Buildings also show influences of the Kven culture, for example in Törfoss and Sappen. Reisadalen was appointed as “landscape area with national cultural historic interest”, where Kven settlements and land use is of special value.

One of the most important cultural elements in the Håldi-area is the riverboat tradition. Reisa is the southernmost river in Norway that still have this tradition. It is also vital in Alta, Tana and some other rivers in Finnmark. There is reason to believe that this tradition was brought here by the Kven settlers.

3.5 World wars brought upheavals

While the battles of the First World War mainly raged in Central Europe, their impacts were also noticed along the northern frontiers. The Baltic Sea had been embargoed by Germany, and Russia was forced to transport their war supplies via the Norwegian ports and through Finland. For this purpose, the railway to Tornio was extended to Karunki in 1915, where the goods were transported by horse across the ice via Kilpisjärvi from Yykeä (Skibotn). In winter 1916, around 3,000 tons of goods were transported, or about 5,000 horse loads. This route was no longer used after the jaegers, a nationalist movement striving for Finnish independence, blew up the munitions storage at Kilpisjärvi in June 1916.

While Norway and Finland remained neutral in the Second World War, they became a battle scene as the Soviet Union attacked Finland in 1939 and Germany invaded Norway in 1940. Norway was occupied by the Germans until 1945. Following the Winter War and a period of peace that lasted slightly over a year, Finland joined forces with Germany to attack the Soviet Union in June 1941. In Lapland, the German troops were responsible for military actions, while the civilian administration remained in Finnish hands. Finland signed a truce with the Soviet Union in autumn 1944. This signalled the start of the Lapland War against the Germans. The Germans eventually withdrew to Norway and they then built the Sturmbock fortress in Käsivarsi. When the Russians attacked, the Germans retreated to Skibotn (Yykeä) in Norway in late 1944. As they retreated, the Germans resorted to the scorched-earth strategy both in Finland and Norway, thoroughly destroying all buildings and transport infrastructure. The population in the entire area north of Lyngen was evacuated/deported further south in Norway.

Ruins of defensive structures can be found in Kilpisjärvi area today. After the WW2, military defensive structures were removed and a new defensive line was constructed against the Soviet Union during the Cold

War. The structures were strictly secret and vital part of Norwegian defence as part of NATO until the fall of the iron curtain.

3.6 Raise of tourism and other new industries

After the war, people returned home and started rebuilding what had been destroyed. The new post-war society was underpinned by traditional industries. The most important ones of which were forestry in Finnish Lapland and fishing in Norway. People in Hálđi area mostly relied on reindeer husbandry for their livelihoods. The first hikers arrived in Kilpisjärvi as early as the 1930s. At that time there was no road, it was not built until 1941 by German troops. The first visitor's book was taken to the top of Hálđi by Kaarina Kari, Anna Lehtonen and Inkeri Arajärvi in 1933. A hostel managed by the Finnish Travel Association opened in 1937, and a hotel built by the Finnish government was completed in Kilpisjärvi in 1953.

Tourism in Lapland and hiking on the fells, increased in popularity in the 1960s as people enjoyed a higher standard of living and more free time. The fell area of Käsivarsi and the trail from Kilpisjärvi to Hálđi, the highest point in Finland, became some of the most popular hiking destinations. Tourism associated with the reindeer also became an additional industry for many Sámi people. After a proposal from the Finnish Travel Association, Metsähallitus built a network of open wilderness huts in Käsivarsi in the 1960s and 1970s. In addition to open wilderness huts, there are reservable huts in the area, where hikers can book a bed in advance for a small fee. Some huts can also be rented for private use. The total number of huts today is around 30. Most hikers in Käsivarsi Wilderness Area walk the Kalottireitti trail between Kilpisjärvi (Gilbbsjávri) and Hálđi. Fishing is popular; both ice fishing in spring and visiting the best Arctic char waters of Finland in summer.

In the 21st century, the number of foreign tourists has grown, and the offer of different tourism services has expanded in addition to independent hiking and fishing. The Norwegians have found their way to Kilpisjärvi for snowmobiling, and Asian and Central European tourists are fascinated by the northern lights. Approximately 50,000 overnight stays are recorded in Kilpisjärvi every year. The annual number of visits to Metsähallitus' destinations is around 80,000; this figure includes those visiting Malla Strict Nature Reserve and the three-country cairn on the border of the three countries. The easily accessible Saana fell attracts over 10,000 visits a year. The number of visits to Käsivarsi Wilderness Area is around 15,000 annually, and it is estimated that one out of three of these visitors hike to the Finnish top of Hálđi.

The salmon-rich rivers on the Norwegian coast attracted upper-class English fishermen already in the late 19th century. Since those times, the river Reisa has been a popular fishing tourism destination. The river canyon with its waterfalls, including Mollisfossen (269 m), attracts tourists for riverboat excursions. The number of tourists on this river has increased significantly in the 2000s. However, the total number of tourists is clearly smaller on the Norwegian side than in Finland, and cross-border hiking is not very common.

In Norway, domestic and recreational use by locals has been and is more significant than commercial tourism in Hálđi region. The tradition of open huts is also strong in Norway and managed by the Norwegian hiking association. The oldest hiking hut in Troms county was built in Nedrefoss in the 1950s and is still an important offer for hikers.

Investments in Kåfjorddalen, especially the Gorsabrua bridge over the deepest canyon in Northern Europe, have also driven tourism interest up. Traffic on the road up to Guolasjávri is significantly growing every year.

At the beginning of summer 2020, it is difficult to predict how Covid19-pandemium will change tourism business globally and in the Hálđi region.

3.7 Scientific interest

The north has fascinated scientists throughout history. In 1799, Giuseppe Acerbi from Italy and Edward Clarke from England travelled along the River Torne on their explorations. Finnish zoologists and botanists took several trips to Kilpisjärvi area in the 19th and early 20th century.

Zoologist Olavi Kalela selected Kilpisjärvi as the base for his vole research in 1946. University of Helsinki's Kilpisjärvi Biological Station, which started operating in 1964, was established on Kalela's initiative. The collected time series spanning several decades in the surroundings of Kilpisjärvi, on for example vegetation and breeding success of birds, are highly valuable for science. The time series monitoring fluctuations in small mammal populations are some of the longest in the world.

In recent years, the northern lights have captured the interest of not only tourists but also researchers. Sodankylä Geophysical Observatory built its KAIRA facility in Kilpisjärvi in summer 2012. It serves as the receiver for the EISCAT VHF station located in Tromsø.

4 Land use regulation

4.1 "Everyman's Rights"

The basic idea of everyman's rights is that moving in the terrain on foot, skis, horseback or bicycle either in summer or in winter is allowed without specific permit from the landowner. This practice is quite similar in Finland, Norway, and Sweden. Hiking and skiing have been the most important activities in Håldi TBA and are therefore allowed for everyone living or staying in the region.

However, during the last decades the ways of utilizing nature and wilderness for leisure has changed. Natural areas have become more and more important arenas with increased activities. Despite this change, in all three countries the right of public access is still based on traditional everyman's rights and regarded as part of cultural heritage. However, only in Norway have everyman's rights been defined in legislation (Outdoor Recreation Act). In Finland and Sweden it is only a code of conduct, even though it is mentioned in many specific laws. Both in Finland and Sweden, the Constitution guarantees the access to nature but also give limits related to protection of private property. For example, in Finland, everyman's rights are mentioned in criminal law (chapter 28, 14§) regarding collection of natural products, and in nature conservation law (chapter 5, 36§) regarding signposts. In Sweden, everyman's right is secured by various laws that set limits on what is allowed. While the courts have the power to interpret the Right of Public Access, not many cases have come before a court of law (Swedish Environmental Protection Agency, 2020). Main limits and boundary conditions for everyman's rights are, thus, defined through other legislation than a specific statute. In Finland and in Sweden it is therefore not always possible to say exactly what you may or may not do in the unpopulated back country areas.

In Håldi TBA, Malla nature reserve is an exception to everyman's rights, when there is no snow it is only allowed to hike on marked routes. This applies also to Saana conservation area between 15.5. and 1.9, but Metsähallitus can give licenses for moving in restricted areas.

The basic principle for camping and making a fire is that short term camping is allowed if it does not disturb others. In Finland the formulation is "short term", in Sweden "two to three tents for a night or two" and in Norway "not for more than two days at a time without the permission of the owner or user". In Norway, permission for longer stay is not required in mountain areas or areas distant from residence, unless the stay might cause significant damage or inconvenience (Outdoor Recreation Act – regjeringen.no).

In Sweden and Norway, the making of fire is allowed according to everyman's rights if conditions are safe and if wildfire is not a threat. In Finland, making a fire is not everyman's right and permission from landowners are needed. However, in wilderness areas and in remote parts of the nature conservation areas making of fire is mainly allowed when using dry twigs, branches, cones, etc. In the north, on State lands campfires are permitted also outside wilderness areas, but mainly at arranged or already used campfire sites if they are available within reasonable distance (500m). The same rules applied in Käsivarsi Wilderness Area. In the Malla Nature Reserve making an open fire is prohibited.

4.2 Fishing and hunting

In Finland, everyman's right allow angling and ice fishing free of charge in most inland waters and the sea. In contrast, fishing is prohibited in rivers, rapids, and fast-flowing sections of watercourses where migratory fish like salmon and whitefish are found, and in certain other protected waters. In Norway, fishing with rod and line for saltwater species from a boat or from the shore is allowed year-round. If you are under the age of 16 you can fish free of charge for inland species between January 1 and August 20, except where there is salmon, sea trout and sea char. Under-16s are not allowed to catch crayfish or to fish in man-made fish dams. In Sweden, fishing based on everyman's right is not possible in the northern parts of the country. In summary, the right of public access applies practically only to fishing and ice fishing in the area on the Finnish side, and only in calm waters; otherwise permission must be granted.

In Reisa National Park the main fish species in the mountain lakes is Arctic char, but some of the lakes also have populations of Trout. Since the fishing lakes in Reisa are located some distance from roads, there are rarely crowds of anglers. The Statskog Norway Fishing Licence is valid for freshwater fishing in Reisa. It can be bought at www.inatur.no. **Salmon spawn in the Reisaelva river all the way up to Imofossen, and a special fishing licence and understanding of the fishing regulations according to the owner of the fishing rights is needed for the season.** Up-to-date fishing regulations and information about purchase of fishing licences can be found at www.reisaelva.no. The Reisa watercourse is free from the Salmon parasite *Gyrodactylus salaris*, which is found in neighbouring watercourses on Finnish side and in some watercourses in Norway, too. Disinfection of all fishing gear before use in the Reisa watercourse is therefore obligatory.

In Finland, the fisheries management license is required for all those who are 18 to 64 years of age and are fishing with lures or traps. Fish in Käsivarsi area include Trout, Arctic char, Grayling, Whitefish, Perch, and Pike. To fish with hook and line or ice fish at Lake Toskaljärvi, Luohtojärvi, and Peera, a fishing permit is required. To fish at Lätäseno, a fishing permit must be purchased. In addition, fishing permit for Tornionjoki-Muonionjoki-Könskämäeno entitles the permit holder to fish salmon in the area extending all the way to Kilpisjärvi. Fishermen need to check the rules and regulations on fishing sites such as www.kalastusrajoitus.fi (In Finnish). Fishing permits are sold by the Eräluvat online store (www.eraluvat.fi), at Metsähallitus customer service points, nature centers and by local businesses.

In Sweden, a fishing permit is required, and it can be purchased either online (www.natureit.se) or from local retailers. Permit holders are allowed to use one fishing rod per angler. There are several rules regarding different areas, time limits of catching different species, rules of release of certain fish and the size of the fish. County administration of Norrbotten, i.e. länsstyrelsen, gives more information (www.lansstyrelsen.se/norrboten).

Hunting in all three countries requires a permit. **Willow ptarmigan (*Lagopus lagopus*)** is the most common species to hunt, but moose, hare and some other grouse and waterfowl are also hunted.

In Reisa National Park, moose hunters access the entire national park as one zone, and moose hunting is also possible further down the valley. Traditional grouse hunting is the type of hunting which attracts the most hunters to Reisa National Park. In comparison with other national parks and hunting areas in Troms County, there are relatively few hunters in the national park. This may be attributed to the fact that the core areas for hunting and fishing are difficult to reach and can normally only be accessed on foot. The same hunting rules apply both inside and outside the national park boundaries. Everyone who wishes to hunt must be registered in the Norwegian Register of Hunters and must have paid a hunting license fee for the current hunting year. All hunting in Reisa National Park is organized by the state-owned enterprise Statskog. In former Finnmark County (exp Kautokeino) the land is owned by the Finnmarkseiendommen, that is formally the people of Finnmark. This is defined by law. Permits for hunting and fishing is organized by them.

In Käsivarsi wilderness area, Finland, the most important game species for hunting is **willow grouse**. Other game species are either rare or they are difficult to reach due to the remoteness of their habitats. The locals have the right to hunt the state-owned lands, and willow grouse is an important species for livelihood of

some. Metsähallitus sells permits for non-locals for willow grouse hunting according to sustainable use of natural resources. Hunting licenses can be obtained from www.eraluvat.fi service.

In Sweden, hunting permits for hunting small game in Kiruna area can be obtained online (www.natureit.se). There are several hunting districts bordering to Käsivarsi area in Finland.

4.3 Dog sledding and hiking with dogs

Dog sledding is allowed in Reisa National Park on the paths and roads in uncultivated areas and everywhere on the mountains as well as everywhere in Käsivarsi wilderness area in Finland. Disturbing reindeer is forbidden; especially in late spring disturbance can be fatal. Käsivarsi wilderness area rules state that the dog sled should not be stopped near reindeer even for photographing. In addition, other people should be taken into consideration especially when staying overnight in the cabins. It is forbidden to bring sled dogs or their equipment inside.

Käsivarsi wilderness area rules states that dogs always must be kept on a leash in the area. Around cabins, dogs must be placed at least 50 meters from the cabin and not attached to the service buildings. Dog parking can be found in the cabins Termisjärvi, Saarijärvi, Meeko and Pihtusjärvi. Operating dog sled businesses always need a license.

Anyone planning to cross the border with a dog must be aware that the export and import of dogs across the Norwegian and Swedish borders are strictly regulated. For Finland, information on vaccinations, deworming and pet passports required for dogs can be found on the Finnish Food Safety Authority's website (www.ruokavirasto.fi). Those traveling to Sweden with a dog must report the dog to Swedish customs (www.tullverket.se , in Swedish).

In Reisa National Park dogs are allowed but they must be kept on a leash between 1 April and 20 August. In addition, some municipalities have their own leash laws. On the Finnish side the basic rule is that dogs should be kept on leash always, and between 1 March and 19 August the rule is absolute.

4.4 Public recreational infrastructure

In Käsivarsi area in Finland, Metsähallitus has 24 huts. Some huts have an open and reservable part and others are only open or reservable. In addition, there are three rental cabins. The basic rule for open huts is that you can stay there one or two nights with the idea that those who have come first give space to newcomers. There is no fee for open huts. A bed from the reservable parts of the huts can be reserved from Metsähallitus visitor centres for one or two nights (the fee is 12€/night/person in 2020).

In Reisa national park, Norway, there are 11 huts where some are open, and some have to be booked in advance. Open huts can be used for free while the reservable cabins can be rented for a fee; more information can be found on <https://reisanasjonalpark.no/en/cabins/>. In Norway there are two huts along the Nordkalott Trail where a standard DNT (Norwegian Trekking Association, www.dnt.no) key can be used.

In Pältsa area in Sweden, there is one Swedish Tourist Association's mountain hut with a cabin manager (more information: <https://www.swedishtouristassociation.com/facilities/stf-paltsa-mountain-cabin/>). Pre-payment guarantees a place to sleep but is not necessary.

4.5 Motorized vehicles

Motorized traffic is not everyman's right and it is regulated in all countries with specific laws. In Norway, the basic rule is that motor traffic is not permitted off road or in waterways, unless otherwise stated (LOV-2017-06-16-61, §3). However, the Ministry of Climate and Environment may provide the municipal council, or other elected bodies determined by the municipal council, authority to make decisions in the regulations for the snowmobling trails in winter. In Finnmark and in Nord-Troms the county governor may, on a proposal

from the municipal council, give permission to use snowmobiles during winter along specific trails off road and on frozen waterways. The municipality concerned shall provide information and marking of the trail.

On the Finnish side, leisure snowmobiling is only allowed on marked snowmobile trails and tracks, in addition to frozen waterways and it is regulated by the off-road traffic act (<https://www.finlex.fi/fi/laki/ajantasa/1995/19951710>). In addition, there are specific rules applying to protected areas. Marked snowmobile tracks can be used independently or with a local safari service. Some of the tracks require a permit, and some are free of charge. The snowmobile tracks starting from the Hetta village are maintained by the municipality of Enontekiö. Their use do not require a permit. The Victoria route, which runs along the border of Finland and Sweden from Muonio to Kilpisjärvi, is also free of charge. For the snowmobile track leading from Palojärvi to Kilpisjärvi in the Käsivarsi Wilderness Area in Enontekiö, as well as for the Syväjärvi–Karesuvanto and Raittijärvi–Saarikoski tracks branching off the main track, a national off-road traffic permit is needed from Metsähallitus (www.eraluvat.fi). In the Kilpisjärvi village area, snowmobile tracks are maintained by the Kilpisjärven ladut ry association, and a track maintenance fee must be paid online (www.kilpisjarvenladut.fi). Metsähallitus has not issued licenses to visitors for off-road driving with, for example, ATVs in the summer. For the local population, permission has only been granted for established trails.

On the Norwegian side, there is an official snowmobile trail from Gahperus in the Reisadalen valley to Guolasjávri, which is open from the marking date until 4th of May. Also, there is a snowmobile trail along the road to Biedjovággi and more trails further on into the municipalities of Nordreisa and Kvænangen. Otherwise, snowmobiling is prohibited in Reisa National Park as the national park website states: “Anything with an engine is basically banned” (<https://reisanasjonalpark.no/en/about-the-national-park/>).

In Sweden, it is recommended to stay on the marked trails but it is not mandatory. However, there are many areas with restrictions. One is Råstojaure area near Käsivarsi where snowmobiling is only allowed on marked trails and on frozen lakes. Also, the local municipalities can decide on temporary snowmobile bans that the Sami villages apply for, for example in late spring in reindeer calving areas. Decisions are announced in the county newspapers and on the municipality website.

4.6 Tourism business and events

Everyman’s right is mainly aimed towards individual users. In Finland, the principle is that if an event is private in nature, such as a guided hike or bird-watching tour, it can be arranged based on everyman’s rights, and you do not need a landowner’s permission. The principal is related to the number of participants, regularity, and duration. The actual impacts of the activity (i.e. causing damage to landowners property or the need of traffic arrangements) are relevant (www.ym.fi). In the Norwegian Outdoor Recreation Act (§10) it is stated that outdoor meetings, sports arrangements (e.g. skiing or orienteering competitions) and similar arrangements that may entail significant damage or inconvenience may not be held without the consent of the owner or user of the land.

Metsähallitus has special cooperation arrangements with tourism companies operating on state-owned lands. The conduct of a tourism business requires an agreement when it targets a protected area with trails, rest areas and other camping structures, and the company operates based on these infrastructures. There are two types of cooperation agreements: **1) Cooperation agreement without assignment of access** (free of charge) and **2) Cooperation agreement**, which includes the transfer of the right of use (for a fee). The cooperation agreement without the transfer of the right of use applies to situations in which the entrepreneur does not use the infrastructure maintained by Metsähallitus in their operations, but, for example, communicates to their customers about Metsähallitus' sites. Typically, such agreements are concluded with, for example, accommodation or restaurant entrepreneurs. When a company regularly takes its customers to sites that have infrastructure maintained by Metsähallitus, a cooperation agreement is needed that includes the transfer of the right of use. In this case, the price of the cooperation agreement consists of a basic contract fee for the entire contract period, a customer fee and a daily usage fee. (<https://www.metsa.fi/luontomatkailuyrityksetsuojelualueilla>)

4.7 Custom and border-crossing regulation

Crossing the border between Finland, Norway and Sweden is fairly free according to the Schengen Contract and Nordic Passport Union. There are specific places for border crossings but if the travelers have nothing to declare or have a pet with them the borders can be crossed anywhere. The Håldi TBA consists of mountainous terrain where the borders are difficult to recognize, and they are not even visible. The trails in the area cross national borders multiple times. If you are travelling with dogs, you should become familiar with updated information about vaccination and deworming needed before hiking with your dog. To prevent transmission of diseases, transportation of dogs over national borders is strictly regulated. All the information needed can be found on www.evira.fi. **When traveling to Sweden, an announcement of the dog has to be made to the Swedish customs** (www.tullverket.se). Fishermen crossing the national border to Norway have to disinfect their gear to avoid the spread of the Salmon parasite (*Gyrodactylus salaris*) into Norwegian waters.

4.10 Sami culture and reindeer herding

The Sámi are the only indigenous people of the European Union and are a minority. Their language and culture are protected by, among other provisions, Article 27 of the International Covenant on Civil and Political Rights. The article allows special treatment for the Sámi people to protect their culture (positive discrimination) and it may also be used as a material basis for protection.

The constitutions of Norway, Sweden and Finland acknowledge the status of the Sámi as the only indigenous people in the EU and give them the right to practice traditional livelihoods. The Sami people can also participate in the management of resources in the Sámi homeland. Reindeer husbandry is the most important Sámi livelihood in this area, and in Norway and Sweden the Sámi have sole rights to practice reindeer husbandry. In Finland, ethnic Finns can also engage in reindeer husbandry, but in the Håldi region it is largely a Sami livelihood.

In Finland, primary economic activities related to Sami culture are safeguarded through the purposes of the Wilderness Act. They have no official status in management of protected areas, but process of official management planning includes Akwé: Kon participatory process, and negotiations with Sámi Parliament.

In Norway, Sámi culture and reindeer husbandry have an independent status in protected areas. For example, Sami Parliament nominates 2 members out of 5 members in the decision-making board of Reisa National Park and Ráisdjuottarháldi Landscape Protection Area.

Cultural and land use rights of the Sámi don't have a direct influence on individual visitors or entrepreneurs operating in the area. Visitors are on the other hand expected to be respectful and considerate to Sami activity when accessing those areas. Most important is to avoid disturbing reindeer, especially during the breeding season, calving season and during herding. Sámi also obligate the managers of the protected areas to use appropriate tools to protect their rights of, by informing and guiding visitors and other land use to prevent conflicts.

5 Land use and local livelihood today

5.1 Settlements, communities

The outer edge of the Håldi TBA is defined by the main roads E6 from Skibotn to Alta, E45 from Alta via Kautokeino to Enontekiö and further to Kilpisjärvi on E8. This route is called the Aurora Borealis Road (Nordlysveien). The surrounding towns/places that are functionally connected to the Håldi region are Kautokeino, Kilpisjärvi, Birtavarre / Kåfjorddalen and Storslett / Reisadalen.

Kilpisjärvi (Gillbjesjávri) is a tourism area in Finland with around 100 permanent residents and 1 500 beds for tourists. A market, several restaurants, accommodation, and other tourism services are available.

Kautokeino (Guovdageainnu) is the centre of Sámi culture in Norway, with about 2 000 inhabitants in the town. Accommodation, restaurants, markets, other tourism services and Sámi handicrafts are available in the town.

Birtavarre (Pirttivaara) is a village at the end of Kåfjord (Gáivuona, Kaivuono), where access to the Håldi diverges from the main road E6. About 200 inhabitants live here. Markets, accommodation, and restaurant services are available in Birtavarre and Kåfjord along the road E6.

Storslett is the administrative centre of Nordreisa Municipality. The town is located at the southern end of the Reisafjorden fjord along the mouth of the river Reisaelva. The town has a population of about 2 000. There is wide range of accommodation, restaurants, and other tourism services available.

5.2 Reindeer husbandry

Reindeer husbandry has the longest roots as **livelihood** in Håldi region. Today, it is still the most important land use in remote areas both in Finland and Norway. Reindeer are herded for meat production, but they also produce materials for Sámi Duodji, traditional handicraft. In addition, reindeers are an important attraction in tourism, both as an essential part of Lappish landscape, and in tourism products.

5.3 Local recreation

Recreational fishing, hiking, skiing, and snowmobiling are common activities for the residents of the region. Locals also cross the border frequently, using traditional routes for fishing opportunities and many other recreational activities that are commonly practised in the neighbouring country. Many have family members and holiday homes across the border. Visiting neighbouring countries has been easy and popular both in Finland and Norway. Finns go to Norway for fishing or simply to enjoy the mountains and fjords. Norwegians spend their free time in Kilpisjärvi driving snowmobiles and enjoying tourism services in the area.

5.4 Tourism

Nature tourism has long traditions in the region. The economic impact of tourism is significant in Kilpisjärvi, where approximately 80% of inhabitants work in tourism or related services. In Norway, tourism has not been an equally strong industry until lately. In recent years, several actions have been taken to promote the growth of nature tourism in the municipalities in Håldi TBA.

Sport fishing in Norwegian fjords and mountain climbing in the mountains was the start of the tourism in Norway during the late 18th century and early 19th century. Hiking and skiing tourism started to attract more visitors after the WWII, especially to Kilpisjärvi and surroundings. Snowmobiles became popular from 1990's. Today Northern Lights tourism is growing fast, bringing a totally new foreign visitor groups to the region, many visiting both countries during the holidays.

Tourism in the area has developed unevenly. Since 1950s, Kilpisjärvi village has grown to be a compact tourism area with strong focus on outdoor activities and lately, northern lights tourism. The available services can be found all within the village and there are very little services outside. In the Håldi TBA in Norway, tourism has not been a major industry until recent years. Since 2015, there have been many private investments in the region and tourism numbers are growing fast. Tourism is not as concentrated in one place as in Kilpisjärvi, but more evenly around the entire region. Fishing tourism has been important both in the river Reisaelva and the coastal villages. Inland nature tourism is still mainly an activity for locals, but top touring tours, day hikes and mountain biking activities are growing every year.

Covid-19 pandemic caused a sudden stop to this trend in spring 2020. It is difficult to predict what long-term impacts this will have on tourism businesses.

5.4.1 Winter activities

Most visitors to the area take day trips into the protected area and spend overnight in the villages. High season for skiing and other winter activities in the Håldi TBA is spring, from February to April.

There are marked snowmobile trails in the region. Tourists are allowed to snowmobile alone only on certain trails. Some trails, such as the Kilpisjärvi – Håldi trail requires visitors to have a guide with a special permit. In addition to popular snowmobile safaris, many visitors use snowmobiles also as transport to ice fishing locations.

Skiing has traditionally been a popular activity among the visitor to the region. Back country skiing, ski touring, cross country skiing and even multiday ski expeditions are common in the region. While the cross-country tourism season (in Kilpisjärvi) has shortened, the expedition season has started earlier the past few years. The Metsähallitus wilderness huts receive many visitors even during the polar night.

Winter tourism has grown in Kilpisjärvi, especially during mid-winter's northern lights season. The visitor numbers between November and February have been multiplying every year since 2015. About half of these visitors are foreign and half Finnish. These numbers do not include the Norwegian day visitors or those staying at their own holiday home in Kilpisjärvi.

5.4.2 Summer activities

Kilpisjärvi has always been a popular summer destination for Finns, who stay in the village and take day trips in the surroundings. Previously, many (mainly Central European) bus tours to/from Norway also passed Kilpisjärvi. Nowadays there are very few bus tours left. Road trips with family and friends by car or camper are more popular.

Day hikes, walks, fishing and multi-day trekking are the most popular activities in Håldi TBA summer season. The only long-distance trekking trail, the Nordkalott Trail (Nordkalottruta, Kalottireitti, Nordkalotteleden), traverses the Håldi TBA. Its most popular section is Kilpisjärvi – Håldi, but the other sections have seen a small but notable growth too.

Many people visit Reisa National Park in summer to join a riverboat tour and visit Mollisfossen, a waterfall 269 m high, the most popular attraction in the park.

Recently, regional destination organisations have been promoting new activities such as mountain biking (MBT) in the area. There are several trails in Norway, but also some around the rocky landscape in Kilpisjärvi. Many mountain bikers who come to Kilpisjärvi take day trips to Skibotn and Kåfjord where the MBT routes are better.

5.4.3 Public infrastructure and services

In Finland, Metsähallitus provides the recreational infrastructure in the Wilderness Area and outside of Kilpisjärvi village. In the proximity of Kilpisjärvi village, there are some paths and campsites services by the local companies and clubs.

Reisa National Park AS is responsible of the services in Reisa NP, and Nord-Troms tourist association maintain some of the cabins in the region.

Kåfjord municipality is responsible for the Guolasjávri and Ráisduottarháldi Landscape Protection area. However, the road from Birtavarre to Guolasjávri is not a public road, but a service road built and maintained by Troms Kraft energy company. Kåfjord municipality works on improving the road together with the users. Gorsa bridge which crosses over the deepest canyon in the Northern Europe is within a short, signed walk from the road.

5.4.4 Commercial tourism operators and services

Most outdoor recreation activities in the Hálđi TBA are carried out by individual visitors or small groups. Free access to the area makes it possible for visitors to travel independently, using their own paths and carrying necessary equipment with them.

Nevertheless, most of the visitors use some local services, at least when staying overnight in the villages, buying goods, and eating in restaurants. Because of the long distances, some form of transport is needed to reach the destination. Accommodation is the biggest tourism business sector in the region, often including restaurants. Accommodation and restaurant services of different levels are available around Hálđi region in Kilpisjärvi, Skibotn, Kåfjord, Storslett and Kautokeino.

Private tourism companies provide a wide range of nature tourism services, e.g., rental of equipment like skis, snowshoes, snow scooters, canoes, and mountain bikes are available in several **resorts**. In Finland, it is possible to order an air transfer to the Wilderness Area for fishing, paddling, or hiking. The most popular guided activities are snowmobiling, mountain top tours, fishing trips and guided boat tours in Reisaelva river. There are a couple of local companies focused on guided treks and ski expeditions.

5.4.5. Public transport and traveling

The Hálđi region is one of the most remote areas in the continental Europe. As a tourism destination, time is needed for traveling, but connections are quite good. Main roads to the area are the E8 road from Tornio following the border of Finland and Sweden. It joins in Skibotn E6, which is the main road along the Norwegian coast from Narvik to Alta. From Alta there is a connection via Kautokeino to Hetta and further to E8.

It is possible to reach the area by bus. Regular bus routes exist from Rovaniemi, Alta and Tromsø. There are several airports in the vicinity: Tromsø, Storslett, Alta and Hetta. There is no railway network in the area. Nearest railway stations are in Rovaniemi and Kolari, Finland, or Kiruna, Sweden.