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ENVIRONMENTAL SUSTAINABILITY POLICY

BACKGROUND

The Environmental Performance Index (EPI) places Finland among the ten greenest countries in the world (top for Environmental Health). Finland also has the world's cleanest air and environment (according to the Pollution Index) and a very high recycling rate (up to 92% of all bottles are recycled here)1. With an average of 18 people per km2, Finland has the third-most land per person in Europe (after Iceland and Norway) and the trondhjemite gneiss (bedrock) found in the village of Siurua in Pudasjärvi is up to 3.5 billion years old, making it one of the oldest and most stable in Europe.

On the other hand, Goal 12 of the Sustainable Development Goals Indicators for Finland (based on the Finnish Voluntary National Report 2020 on the Implementation of Agenda 2030), shows that the material footprint per capita in Finland is c. 7 global hectares per capita, whereas the EU average in 2014 was 4.7 global hectares per capita and the world average in 2016 was 2.75 hectares. Domestic material consumption per GDP has decreased in Finland but stayed on a high level in the absolute terms and per capita.

In other words, we have room for improvement.

CSR Within our Company

With a theoretical academic background in environmental science and forestry, and a history of presenting on the subject of environmental ethics, risk management etc on expeditions, Anna has a strong interest in, and understanding of, ecological principles and Pasi, as one of the foremost survival experts in Finland, has a practical knowledge of the ecology of the north.

Our long-term farm manager, Tim Mottishaw brings additional skills and knowledge to the table. As well as running the popular Kukkeli Bushcraft youtube channel – which provides a wealth of information about the ecology of the north – he is also a craftsmamn with wood. Hence, it is not surprising that environmental sustainability factors highly within our business ethos and that communicating about this subject has been important within our business model from the first days.

Whilst Anna is ultimately responsible for the business' CSR[3], the team as a whole, is committed to the same principles. The team is too small to warrant a 'green committee' but Anna is responsible for[4]:

- liaising with staff and suppliers on all environmental/sustainability matters.
- Providing guidance and support to staff members on environmental and responsibility issues
- Working with Pasi on the collection, management and updating of environmental information, waste issues and energy and water use
- Being responsible for gathering, managing, and updating the environmental data on cleaning, waste, and the efficient use of gas, water, and electricity
- Being responsible for the formulation, development and implementation of the site's environmental plan, policy and environmental objectives / action plans.
- Is responsible for collecting and developing new sustainability ideas and projects for staff and customers.
- Communication related to the application and the follow-up application with Green Activities.
- Being part of all company audits.
- Writing and updating written CSR plans and policies[5]
- The sustainability policy of the establishment is to be reviewed every third year to allow for continuous improvement.

The Environmental Pillar of Sustainability

Sustainability is most often defined as meeting the needs of the present without compromising the ability of future generations to meet theirs. Broadly speaking, a company implements sustainable practices by reducing its consumption of limited resources, or finding alternative resources with lower environmental consequences.

Corporate sustainability practices typically fall under the umbrella of environment, social, and governance practices. Corporations implement ESG in order to reduce their environmental footprint or to accomplish other objectives of benefit to society. Sustainability has three main pillars: economic, environmental, and social. These three pillars are informally referred to as people, planet, and profits.

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1 Tips for sustainability communications: A travel industry manual for better marketing and communication' Produced by Visit Finla

3 Green Activities 1.1 (I)
4 Green Activities 1.2 (I)
5 Green Activities 1.2 (I)

The environmental pillar of sustainability is the one which often gets the most attention. Companies have found that by focusing on reducing their

footprints, packaging waste, water usage and their overall effect on the environment, they can not only have a beneficial impact on the planet but also a positive financial impact. Lessening the amount of material used in packaging usually reduces the overall spending on those materials, for example. Walmart keyed in on packaging through their zero-waste initiative, pushing for less packaging through their supply chain and for more of that packaging to be sourced from recycled or reused materials.

Other businesses that have an undeniable and obvious environmental impact, such as mining or food production, approach the environmental pillar through benchmarking and reducing. One of the challenges with the environmental pillar is that a business's impact are often not fully costed, meaning that there are externalities that aren't being captured. The all-in costs of wastewater, carbon dioxide, land reclamation and waste in general are not easy to calculate because companies are not always the ones on the hook for the waste they produce. This is where benchmarking comes in to try and quantify those externalities, so that progress in reducing them can be tracked and reported in a meaningful way.

The Arctic as an Operational Base

The Arctic region is one of the largest and most pristine wilderness areas in Europe. It is a reservoir of biological diversity, a place of great spiritual and historic interest and one of the most spectacular natural landscapes found on earth.

As a tourism company operating here, we have a huge responsibility to not only minimise the environmental footprint of our actions as much as possible but also to play a role in securing a sustainable future for the Arctic environment. Every business operating here, has some impact on the natural environment, whether on individual creatures (hunting, agriculture etc), the eco-system (because of building, water management, pollution etc) and the planet as a whole (climate change). Hence, our impact on the natural world needs to be considered at all stages of the business, from planning to operations.

When sustainability is a business intent, the impacts are minimized, awareness about, and appreciation of, the environment is raised and, in providing resources for conservation and ensuring that the natural resources are not depleted prematurely, benefit is brought to the region.

In terms of the region's load-bearing capacity (aka how much strain the region can bear and how many travellers can be accommodated, thinking about clean water supply, waste management, energy sources, construction suitability of the soil and the potential impact on local nature and ecosystems), our area's limited accommodation capacity is an effective tool for limiting the number of visitors but the area[6] in which the region probably struggles most is in waste management.

Standards-Alignment

We support the development of voluntary regulatory arrangements and training programmes that are available to tourism operators that would help companies contribute to the economic prosperity and environmental well-being of the local communities and environment in which they operate. As such, we have participated in various EU-led projects (with Pasi often actually being on the steering group or board of these) looking at everything from sustainable tourism in the National Park to cooperation across borders and quality & safety practices in tourism[7].

Through this, we have become one of a number of local area guides who completed a series of training workshops which ultimately led to accredited National Park Guides status, trained to communicate informatively about nature and sustainability in the park itself. Future targets in this area include hoping to initiate a project to look more at responsible tourism practices in Enontekiö as well as to use the Northern Sleddog Entrepreneur's Association as a platform for developing voluntary regulatory standards within our own specific industry.

There are a number of environmental accreditation bodies that have some relevance to our business – for instance the Green tourism awards in the UK, Nature's best from Sweden, the UIAA Environmental Label etc (holders of UIAA Environmental Label promote high standards of conduct and support the work of the UIAA in the international protection of the environment and access for responsible mountain activities. The UIAA is a partner in the UN International Partnership for Sustainable Development in Mountain Regions and works closely with the World Conservation Union (IUCN) to promote protected areas and access and conservation strategies for climbing.)

In 2007, for instance, there was an EU-funded project on sustainable arctic tourism to develop best practices and codes which businesses could sign up to. Unfortunately, the project was maybe ahead of its time and the impetus died with the end of the funding. Hence, although we incorporated its codes and principals into our own, (supporting the local economy, operating in an environmentally friendly way, supporting the conservation of local nature, respecting and involving the local community,

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[6] Greenkey 5.20. This isn't something that even Metsahalitus monitors – other than from measuring footfall within the national park itself. We would discuss with other people in the area if we felt that the area was being over-utilised but we are a far cry from this being an issue.
[7] ECOT A2 Legal Compliance

ensuring quality and safety in business operations and educating visitors about local nature and culture), we were a little at a loss as to how best to baseline our standards against any known mark or label. None of the obvious options (Green Tourism, UK, Nature's best from Sweden, the UIAA Environmental Label, the UN Sustainable Development Goals[8], etc), seemed directly applicable.

We started by simply assessing our own practices and activities with the help of an intern from Forum for the future (an independent non-profit working globally with business, government and other organisations to solve complex sustainability challenges) and then in 2011 became the first Finnish partner of the international *Leave No Trace* alliance in which we committed to aligning our practices against the 7 defined Leave no trace Alliance principles. These principles are centred on a set of outdoor ethics promoting conservation in the outdoors.

Partner companies commit to setting an example by making a commitment to educating those that come into contact with them about 7 key philosophical principles centred on a set of outdoor ethics promoting conservation in the outdoors).

The Leave No Trace philosophy is an outdoor lifestyle philosophy that we have been following in our own travels and explorations for many years, honed down into seven clearly defined principles: 1) Plan ahead and prepare, 2) Travel and camp on durable surfaces, 3) Dispose of waste properly, 4) Leave what you find, 5) Minimise campfire impact, 6) Respect wildlife, 7) Be considerate of other users.

As a programme, Leave No Trace is designed to promote and inspire responsible outdoor recreation through education, research, and partnerships. It depends more on attitude, awareness, and ethics (a commitment to doing what you know to be the right thing regardless of who is there to witness you doing it), than on rules and regulations. The Leave No Trace premise is that partner companies should lead by example and have a commitment to the environmental education of those they work with[9]. The leave no trace principles align with the Finnish concept of everyman's rights in which everyone is guaranteed the right to enjoy nature freely, but at the same time, the demand is made that visitors do not disturb the environment and leave no trace.

Another set of sustainable principles against which we have committed to baselining our practices against is the Ecotourism Network [10]; a quality-based accreditation procedure. It has taken us a while to do this and in the interim we have had to also look at the STF Finland principles but maybe we will have a chance to conclude looking at all of these by 2023[11].

On a day-by-day level, we operate in accordance with Enontekiö municipality's environmental protection regulations, the Nature Conservation Act, Everman's Rights and regulations concerning protected areas, but more importantly, we strive to set a good example in the way in which we drive best practices in our business activities and habits[12]. These habits include commitments to litter-free camping, a zero-waste mindset etc and to these ends, we instruct our clients about appropriate ways of behaving whilst in nature. We do not go through these, specifically, during staff induction but training is provided during what we call the continuation phase of staff training[13].

These steps are simple ones in the 'right' direction. Most people here who live and work in our region do so very close to the land and sound environmental standards are everyday practices for most companies and individuals. However, many local companies do not understand the language of responsible travel and nor do they necessarily understand that this part of the market is a growing one which will eventually be the base standard. Hence, we have a lot of work to do locally to build an understanding of how to excite that type of customer about what we have to offer.

Essentially, we reduce the environmental impact of our operations as far as possible by continually reviewing and improving our activities as part of our social, environmental, and ethical risk assessment process. The impact and materiality of each risk area is considered, and appropriate measures are taken to manage or mitigate them.

We also became a partner business with our National Park as it went through Europarc Charter Status. Partner businesses around the park are committed to attend regular training activities about the park and the region and to provide accurate information to their customers.

The European Charter for Sustainable Tourism is a practical management tool which helps protected areas to continuously improve the sustainable development and the management of tourism taking account of the needs of the environment, the local population and the local tourism businesses. The Charter is not a typical quality or eco-label but a process-oriented methodology that can be used and applied by all kinds of protected areas. The Charter's focus is on initiating and assisting a process of sustainable tourism planning which will lead to sustainable development step by step. The Charter assists this process by providing a 'strategy development kit' which contains principles, a methodology and check-lists for the protected

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[8] Greenkey 5.1 states that when an organization aligns against the UN Sustainable Development Goals, it should select at least three goals of direct relevance to its activities.
[9] *At every stop on any one of our tours, for instance, we commit to leaving no trace from our passing and we carry back out of the wilderness any poop the dogs may donate. We do not, however, pick up donations made on the run since these are relatively minimal.*
[10] *Within Ecotourism, a core value is that of providing good practice in terms of both natural and man-made heritage. Good practice in these areas is crucial when developing an Ecotourism business, as these are the main ingredients in an ecotourism product. The Code of Conduct should include points regarding the provision of accurate, engaging and informative interpretation of the natural and manmade environment, good practice in terms of outdoor activities, enforcement of relevant laws and policies, and points regarding minimising water consumption and other ways of reducing waste.*
[11] *GreenKey 5.1*
[12] *GreenKey 5.2*
[13] *GreenKey 5.2*

areas to work with. In c.2017, we again developed our communication processes and practices using the quality standard requirements for partners of the European Ecotourism Network.

Client Communication

We believe that there is inherent value in the landscape itself. We also recognise that the freedom to explore, to travel by dog sled, to climb and to ski is all part of the wider need for the appreciation of nature and scenery, as recognised by the World Conservation Congress in 1996. People have a thirst for adventure and generations to come should be able to enjoy the same clean air, unique landscapes and wildlife, scenic beauty, culture, history, and recreational opportunities that we do today.

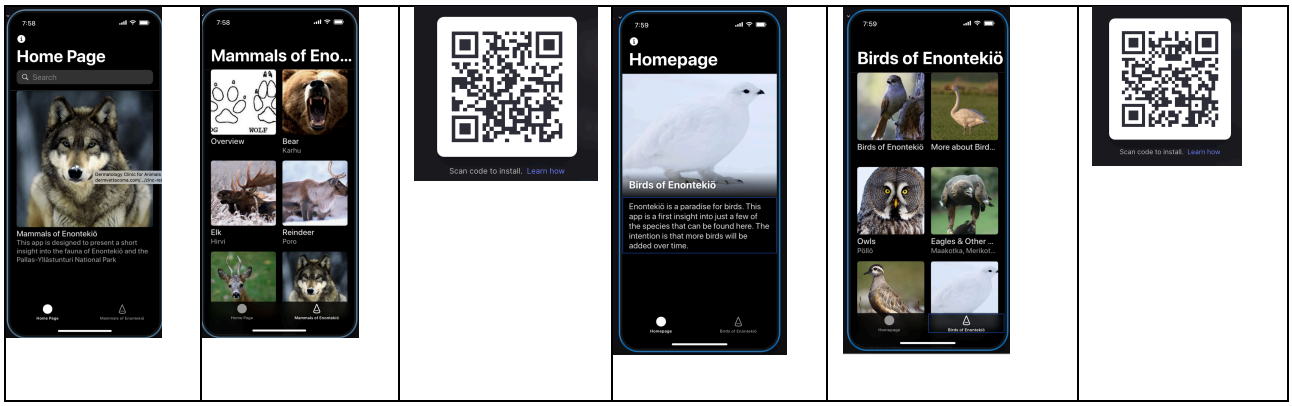
One part of our environmental commitment involves communication with our clients as to the ways in which they can travel, responsibly, in Lapland. Our website and information boards not only highlight our destination's natural, cultural, social and political conditions but are probably the only information source to do so in a comprehensive manner in English[14]. (Trying to collate existing information from numerous disparate sources, none of which provided a holistic view of the region into one educational resource point targeted at someone who didn't really understand the geography of the region required a surprisingly huge amount of effort).

Whilst it is impossible to share much on the subject of responsible travel with those who are with us for a short time, our approach and philosophy is hopefully obvious to all of those who visit the farm. We have a nature trail activity for those who prefer to amble around, (rather than be pulled around) our agility course, signboards discussing responsible husky farm ownership as well as ones which baseline where we are at, in terms of environmental practices, etc. (We would add information about Greenkey and STF Finland to these and to add the Greenkey certificate to our souvenir shop location, front signboards and eco-boards, etc, post certification) [15].

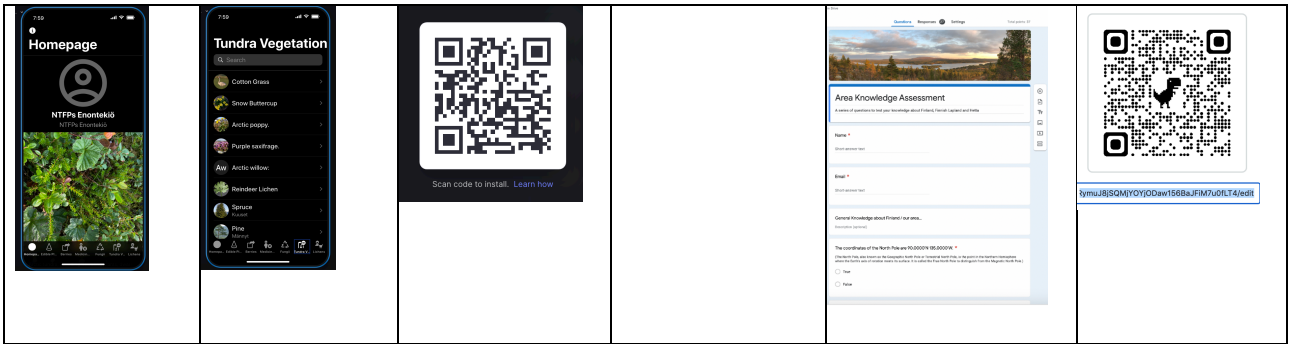
We communicate about our local purchasing policies in terms of the food we serve to the multiday customers (white fish caught from a lake where we spend a night on a multiday tour by one of the families in that area (staying in a cabin owned by another family from that area), reindeer with hand-picked and made lingonberry jam and Lappish squeaky cheese with hand-picked and made cloudberry jam) etc.

For those with us for longer tours, subjects like environmental restrictions and challenges when operating in the remote Arctic, as well as subjects like how people continue to live, in part, from the land, all come up as natural conversations. We like it if the customers leave us not only understanding more about the world of the dogs but also more about the world, lifestyle and culture which they help to preserve by spending time in the region in which we operate in the high European Arctic.

We have links to apps we are developing about the area's mammals, birds and flora as well as an app about what people can do in Enontekiö, including things like access rights for picking berries. The first nine screenshots (in sets of three) are from our three nature-related apps. We also have an app about what to do in Enontekiö which basically points people towards other tourism providers[16]. All of our apps are a work in progress. The last two screenshots are an example of the kind of google test that we have created to test the extent of the guides' knowledge about everything from the area to starting snowmobiles.



[14] ECOT A.9 Raise visitors' sensitivity of the host destination
15 Green Key 3.1
[16] ECOT B1 Community Development



We have created one display (about Pasi's journey to the south pole) for the local nature centre. This ran for many months and Pasi also gave a number of lectures on the subject in regional nature centres and Anna has given talks about the business and about team-centred leadership for a number of local companies. We have volunteered our own and our staffs' time on a number of infrastructure projects locally (for example, taking down a building in the location of the ski centre) and tried to join the local rescue team but language gets in the way (although Eliel is in the children's fire brigade troop)[17].

Interactions with Wildlife

We talk about relevant codes of conduct with wildlife with our clients before they are likely to encounter them (keeping noise to a minimum, following trails and paths, avoiding sudden movements, no harm or disturbance, no intrusion onto nesting or breeding sites, keeping a distance, no feeding, not stopping on sleds to photograph reindeer, elk etc)[18].

If we see any issues or incidents relating to other species, we try to find the person responsible and help them to sort it out (for instance we have more than once gone back out with their owners to help rescue reindeer trapped in snow gullies and we have reasonably often had to find the owner of loose dogs or even return them from the tundra).

Local Sourcing

Utilising short supply chains obviously has a huge global impact on resource use. However, shopping locally is not always so easy when there are only three shops to choose from so, in as far as we can, we do. Whenever we are shopping further afield for bigger items that are not available locally, or when simply travelling to nearby airports - we try to communicate with others in the community to see if we can either carpool or shop pool, thereby reducing community carbon requirements.

These simple steps keep money circulating within the local community and economy and reduce emissions created by the transport of goods over long distances. When back in the UK, we use forums like freecycle and wrap.org.uk for sharing goods and sourcing reclaimed building products. In Hetta, we use facebook groups for purchasing, exchanging and giving unwanted items locally[19].

When building new facilities, we try to minimize our overall impact on nature in those areas, consider the original nature of the area and make sure that bordering woods do not put the buildings in jeopardy from forest fires, falling trees etc. We have an architect we consult from Portland, Oregon, who is known for building low-impact, sustainable wooden buildings [20] whenever we are thinking about bigger projects (simply because she is a family friend and has visited us on a number of occasions so she understands the needs of the business and the architecture of the area). We aim to use local traditions in construction and traditional building techniques wherever possible[21].

Most of the buildings that we have constructed over the past 10 years have been roundwood projects although we have also made some farm sheds, etc out of sawn timber. Many have incorporated local architectural styles[22] including the farm kota and laavu that are used almost daily. And most use elements of local decoration including handicrafts, artwork, carvings etc from local craftsmen and articles of daily use that are common in the locality[23].

Most of our wood requirement is taken from our own lands in spring and summer from trees which need to be cut anyway[24]. when thinning the forest to keep it at a healthy density (we monitor the sustainability of use from our lands carefully since trees grow slowly in the arctic). Building needs that we cannot meet from our own lands, are purchased from local sawmills and we sometimes go out with them in search of perfect timber.

Local builders are brought in to help lead more complicated building projects so that our staff can improve their wood-based building skills and we can share values in the process. As part of this, we use well-insulated building materials during construction and

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[17] ECOT B1 Community Development
[18] ECOT D.3.1. Wildlife Species
19 Green Activities 1.2 (I)
[20] ECOT A.6.3. Sustainable Construction
21 ECOT A.6.3. Sustainable Construction
[22] ECOT C4 Incorporation of Culture
[23] ECOT C4 Incorporation of Culture
24 This aligns with Goal 15 of the Sustainable Development Goals Indicators for Finland (based on the Finnish Voluntary National Report 2020 on the Implementation of Agenda 2030), to protect, restore and promote sustainable use of terrestrial eceosystems, sustainably manage forests, reverse land degradation and halt biodiversity loss.

renovation and choose durable over cheaper materials whenever building, in an attempt to consume fewer resources over time.

In terms of using natural materials where possible (e.g. plaster bound or low-emission particleboard), we often have to make a trade-off between eco-certified and locally sourced or culturally beneficial purchasing practices, (eg, for wood and other building materials) but whenever an environmentally friendly or eco-labelled option is available locally, that is obviously the preferred option. We prefer durable goods (such as paint, insulation material, floors, carpet, wallpaper, etc.) awarded with relevant eco-labels (e.g. using solvent-free finishing, coating and adhesive materials) [25].

Our buildings are painted to blend in with the landscape using natural tars and linseed oil or natural colours (eg the kennels) in adherence with the wishes of the local building inspector[26].

Dog Kennels and Cages

All of our dog cages are constructed as elements from wood purchased locally that can be reassembled in new locations or used in different ways, should we have to take the cages down. Many of our storage structures are created from round wood which we cut and peel on our own land and we have created a dog-poop compost system from left-over food transport pallets and offcuts of tin which was previously trialled in Alaska. Besides our road we have constructed a waste and recycling centre where we not only separate waste but also store left-over bread for a local chicken farmer to collect.

Before we had developed the expertise to build kennels in-house, to our own preferred design, we purchased c. 70% of our original kennels from a cooperative called Team Fix in Kiruna which, although a relatively long way away, it is one of our closest cities. Whenever we are shopping further afield, or when simply travelling to nearby airports - we communicate with others in the community to see if we can either carpool or shop pool, thereby reducing community carbon requirements.

Team Fix is a company we wanted to support since it is a business run by the municipality of Kiruna as a social action programme intended to give people with different degrees of disability - or those who have been outside of normal society (eg ex alcoholics) - opportunities for employment and rehabilitation through training and support into the standard labour market.

Buying food and handicrafts locally or responsibly

By sourcing locally or responsibly as far as possible we hope we foster good community relationships and cooperative attitudes with local businesses.

We buy reindeer meat (a central part of our client food plan) directly and use left-over bones from local reindeer herders and hunting groups for the dogs to keep their teeth healthy. If we are given eg elk legs by hunting groups, we try to respect the lives of the elk hunted and to further reduce waste by distributing the hooves that the dogs don't eat to local jewellery makers. We also buy the reindeer skins used in our products from the farm next door and we used to utilize unsold meat products from the local shop as treats for the dogs although that option has disappeared at present. We shop for everyday items and food locally rather than through bulk online purchases (and reuse cardboard fruit and vegetable boxes rather than using plastic bags, whenever we shop).

Similarly, we promote and sell handcrafted merchandise made by local suppliers including silver pendants of our huskies, dog tags made by an ex-guide who now lives locally, etc, in our gift shop. These simple steps keep money and goods circulating within the local community and economy and reduce emissions created by the transport of goods over long distances.

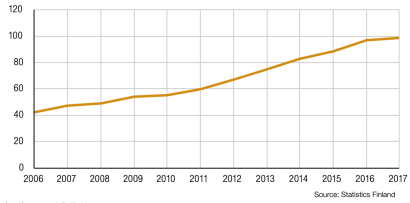
When we buy big purchase items like our dog food from elsewhere in Finland, we try to do so from companies with a good environmental reputation. Right now, for instance, we have been working with a Finnish company which has the stated aim of 'building the future for Organic Finland'. They are currently Finland's leading organic feed market for cattle, poultry and swine production. They have a strong focus on sustainability and environmentally safe production.

25 ECOT A.6.3. Sustainable Construction
[26] ECOT A6.1 & A6.2 Local Zoning & Design and Siting

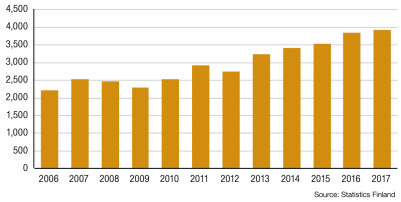
Re-using, Re-purposing Recycling[27]

Target 12.5 of the Sustainable Development Goals Indicators for Finland (based on the Finnish Voluntary National Report 2020 on the Implementation of Agenda 2030), is to do with reducing waste generation through prevention, reduction, recycling and reuse.

Target 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse



Indicator 12.5.1a
National recycling rate; municipal waste (%)



Indicator 12.5.1b
National recycling rate; municipal waste (tons of material recycled)

In adherence to this, we purchase reused or recycled products whenever possible – for instance, the waste material from paper mills that is used as a covering for our 'fabric' kota - and then, in turn, we reuse and then recycle our own paper and plastics since we drive sound waste management practices in the office, farm and on wilderness safaris (everything, including the dog poop from overnight camps, is brought back to base). We created a custom-made recycling centre for separating waste a few years ago and when we used to get old bread from the supermarket we used to store what we didn't need there, ready to be picked up by a local horse farm and a family with chickens who could use the remainder.

We reuse and recycle our own equipment that gets broken over time (for instance dog medical cones, collars, harnesses etc) whenever possible. Most are stored until we have more time in the summer months, and then they are repaired and put back into the system (as opposed to simply buying new ones).

We have a collection of clothing that has been left-behind by previous guides and clients which helped to clothe 3 families of Syrian Refugees living locally in 2017, the remainder of which is an open-access resource for any guides or locals who want to supplement their personal gear.

Dumpster Diving

Journeys to the local landfill site always result in returning with fuller trailers than on departure. We have collected enough decent timber to make agility obstacles for the dogs throughout the farm and farmhouse area and to build boardwalks across marshes between the farm and farmhouse, thereby extending the trail network around the farm which is accessible by bike.

We have also resurrected bikes into working order for guide use and we have even scavenged and fixed up (and then given away to a local children's group) a functioning fuse ball table! We reconditioned a set of drums from there and have repurposed numerous items of furniture (eg sofa cushions as dog beds), picket fences, fences for marsh boardwalks, wood for agility obstacles etc.

We don't believe that things should be thrown away carelessly in a world in which overconsumption is rife. Anna considers this kind of 'dumpster diving' to be the ultimate in post-consumer recycling since forums like freecycle and wrap.org.uk for sharing goods and sourcing reclaimed building products don't exist to the same degree in the far north. In that way, we have gradually improved the quality of life on the farm whilst reducing the landfill and without utilising many resources in the process. We figure that this is the ultimate in post-consumer recycling

Wood chippings discarded at the tip from the municipality have been combined many summers with our composted dog poop and spread over our trails to rejuvenate and protect them from any wear resulting from the training of the dogs. (We have also tried to get the municipality to just deliver any such waste to us directly to minimise the time and energy cost of having to collect it, bit by bit, but so far, we haven't been successful) [28].

Monitoring the need for such rejuvenation projects is something we try to build into all activities..we try to train staff to SEE issues like littering, to report any disturbance to wildlife, trail degradation etc and to deal with it appropriately[29]. We do not offer activities that aim to attract wild animals for photography although we do have a bird hide and provisionally offer bird watching products (we have so far sold one such product so this is not really relevant although Nature Conservation Act best practices were considered) and we regardless feed birds regularly both close to it and around our farmhouse through the winter. We make sure that our guides are aware of nesting seasons or calving periods and locations that are temporarily out of bounds (for instance the Pahtajarvi cabin for some weeks in Spring) at those times[30].

Finnish Lapland has a large number of shelters and cabins dotted around the wilderness that are either privately owned, exclusively for the use of reindeer herders (supplied through the Ministry of Forestry) or designated for tourism purposes. Some of the tourism-targeted cabins are bookable. Others serve the last group to turn up. Some are restricted to skiers and some, rather bizarrely, are restricted to skiers and snowmobilers but dog-mushers are either not permitted access or access is permitted but with the dogs kept so far away, that it is hard to ensure the welfare of the dogs.

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27 Green Activities 1.2 (I)
28 Green Activities 5.11
29 Green Activities 5.11
30 Green Activities 5.17

Dog Poop Composting

We compost both our dog poop and as our vegetable waste. Once safely mulched, it is put back out to support the organic composition of the tracks used for autumn training. This turns a waste by-product of the business into a useful source of organic matter.

Dog poop and food waste composting can only happen in the summer months, but the waste collected from the farm in winter – combined with the dog and food-scrap waste carried back out from the overnight locations of multiday tours (as part of a 'whatever is carried in, is carried out' policy) – is stored in a holding area ready for each summer's composting action.

Energy and Water Saving Practices[31]

We use energy and water-saving devices and practices whenever possible since long-term savings in these areas can have a huge overall impact; for instance, collecting rainwater in barrels for use in cleaning floored cages, using building off-cuts for fires both in the house and in the farm buildings to reduce energy consumption, etc. In our farmhouse, we use a mixture of log-fire heating, under-floor heating and traditional electricity-based heating and an air heat pump which captures and stores heat and then blows it back out to keep the house at as stable as possible a temperature in winter.

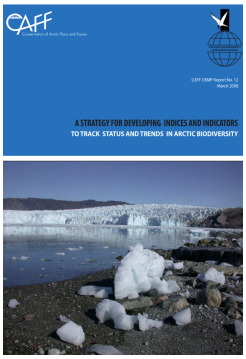
Compliance of activities with special regulations in protected areas

We are situated in the far north of Finland, surrounded by wilderness areas, watershed areas, national parks and other nature-protection areas, so we always have to consider the type of protection of each area and the respective activities allowed to take place within each, whenever we travel away from our base[32].

When we bring proposed routes to the table, we not only discuss them in line with the agreed practices in the various areas but also try to discover information about known nesting sites or overwintering sites for important birds, bears etc.

Biodiversity Conservation

Some background info



Finland's forests are an intriguing asset for tourism. We are the most densely forested country in the EU (72% of all of our land area is covered by forests) and #10 worldwide[33]. The forests are beautiful to behold, improve air quality, act as carbon sinks and can improve one's health by just spending time in them and relaxing (maybe not in mosquito season!). Finland's natural forests are protected by restricting commercial use of ecologically valuable locations, by having nearly 90% being PEFC certified and by having 12% strictly protected – this is one of the highest percentages of strictly protected forests in Europe. The total protected area is made up of legally protected sites as well as areas within commercial forests that maintain natural diversity. For the most part, nature reserves are off-limits to the public and any commercial activities within national reserves are required to meet the standards of sustainability.

Where we are based, we are in the centre of the boreal Taiga forests of the north, just c.20km South of open Tundra landscapes. The landscape is a mix of sand-dunes, forest and wetlands. Effective management of wetlands, including conservation and restoration efforts, holds enormous potential to contribute significantly to climate adaptation and mitigation, and the conservation of biodiversity. Wetlands provide clean water and buffer floods and droughts, support fisheries and hunting, support biodiversity, and act as long-term sinks for atmospheric carbon. Wetlands are an integral part of many Indigenous Peoples' lives; they provide and sustain food security, including grazing for traditional reindeer herding. Recognition of wetlands' importance, including in the Arctic, is growing as their role in sustaining a wide range of ecosystem services becomes better understood.

Widespread anthropogenic climate change impacts in Arctic wetlands are ongoing and projected to increase in this century since wetlands are vulnerable to substantial indirect damage e.g. through global warming, changes to precipitation patterns, altered hydrological flows, and environmental pollutants. Even though the majority of arctic wetlands are currently relatively intact, wetland resilience is needed to buffer further damage and to reduce a linked threat to migratory animal populations. Reducing greenhouse gas emissions is necessary to limit these impacts. Climate-driven permafrost thaw and increased drought conditions impacting wetland ecosystems will cause greater fire occurrences and shifts in hydrological flows, affecting wetland ecosystem services and biodiversity. Thawing permafrost is projected to transform peatlands from a net sink of greenhouse gases to a net source lasting for several centuries.

In some regions, Arctic wetlands are already degraded by human land use and an ever-growing human footprint from forestry, agriculture, hydropower, peat extraction, mineral extraction, infrastructure expansion, etc, poses threats to wetland functioning. Wetlands are also vulnerable to human disturbances to permafrost or adjacent upland habitats and changes to the water balance or hydrological connectivity that can transform wetland function. Drained wetlands release carbon to the atmosphere instead of storing it, and the negative effect lasts for decades to centuries. Other losses of function include loss of biodiversity, changes to habitats and reduced capacity to buffer floods or droughts.

Multiple case studies and research projects have demonstrated that protection, conservation or restoration of degraded Arctic wetlands offers substantial benefits for water-centric ecosystem services, biodiversity, and climate change mitigation. In addition to Indigenous, institutional, and local knowledge of wetlands, there is a considerable and broad scientific knowledge base on wetlands protection, conservation, restoration, and management which dates back many decades. All of this knowledge is crucial for adaptive and holistic management of wetlands.

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31 Green Activities 1.2 (I)
32 ECOT A.8 Compliance of activities with special regulations in protected areas
33 30% of the Earth's land area – 39 million km – is covered by forests.

Degraded wetlands exist in all Arctic states and are particularly common in Boreal regions where extensive drainage for forestry, mining or peat extraction has occurred, or in Tundra where vulnerable permafrost wetlands have been degraded by unsustainable human land-use. To achieve long-term success, restoration efforts should be planned together with conservation of undamaged systems as part of a landscape-scale approach to sustainable management.

There are crucial differences between wetland classification systems. A uniform system for comparing and harmonizing existing Arctic wetland classifications would help to better plan wetland actions that span borders, traditions, and cultures. Maps are needed that show the spatial extent of discrete wetland complexes at high resolution and should separate mineral wetlands from organic wetlands (peatlands). In the shorter term, new maps of wetland extent will be bound to one specific classification system; it is not possible to address the diversity of existing systems. Over the longer term, boundaries between maps and monitoring dissolve. Spatial wetland data can be stored in spatial databases that allow flexible adaptation to different classification systems.

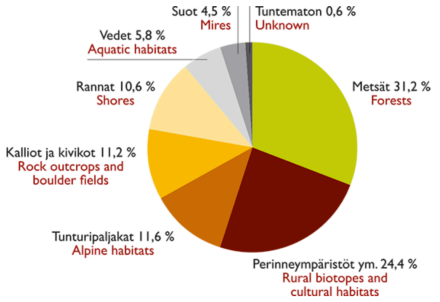

Figure 1. Distribution of threatened species (CR, EN, VU) by primary habitat.

Finland's Red List

We live in a part of the world in which many species are yet to be properly recorded and identified and where a great deal of work needs to be done on carrying out baseline data research so that changes can be monitored over time. Information on Arctic biodiversity, human stressors, and natural changes is widely scattered among scientists, government institutions, and northern communities and available only in a piecemeal fashion. An integrated picture of the status of and trends in key species, habitats, processes, services and ecosystem integrity in the Arctic and along relevant migratory routes is not fully known.Since the 1960s, Finland has carried out a decennial assessment of threatened species and an assessment of the status of birds and mammals, more frequently. The fifth assessment of threatened species in Finland was in 2019 and it was carried out using the internationally comparable "Red List Categories and Criteria" established by the International Union for Conservation of Nature (IUCN). According to these criteria one out of nine of the evaluated species could be said to be threatened.

Although Finland is said to be home to c. 48,000 species, only 47% of these are sufficiently well-known for their status to be evaluated. Having said that, Finland's survey is still considered one of the most comprehensively performed surveys in the world against this objective global approach for evaluating the conservation status of plant and animal species, and for identifying rare, endangered and protected wildlife[34].

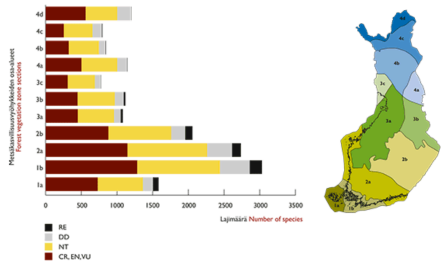

Figure 3. Number of threatened, Near Threatened, Data Deficient and Regionally Extinct species in the forest vegetation zone sections.

Of these, c.12% were assessed to be threatened, with the most threatened habitat being alpine species, followed by forest-dwelling and then the more species-rich rural biotopes and cultural habitats. This is an increase of 2% (or 420 species) for Red List species in Finland from the previous survey and this negative trend clearly indicates that we have not succeeded in halting the decline facing our country's species. Even if 263 were said to have their situation improve, 461 had it deteriorate.

Biodiversity in our Local Area[35]

According to the chart produced by Enviroment.fi, there are far fewer threatened species (that we know about) in the north of Finland than in the south. (Remember, though, that we have only scratched the surface in knowledge about the insect population in particular).

What is wonderful for those who live here is that this area is full of wild animals – from bear to fox, to wolf to wolverine[36]. We talk about the area's wildlife and the wilderness areas we are surrounded by, on each and every farm tour. A couple of bear hibernate within 5km of our dog farm and there are fox living between our farmhouse and the dog farm which we keep an eye on to ensure that they are healthy. Rabbit and lemmings come out to play in the spring, along with many mice, voles and numerous birds.

Reindeer are obviously the most important animals in the area and we understand their life cycles and when it is particularly important for them to not be disturbed by dogs. We don't feed wildlife other than birds – we have have bird houses scattered around our yard since otherwise, they would use the eaves of the farmhouse itself. Indeed, in 2017 during the campaign; 'A million bird boxes to provide homes to ten million hatchlings', we committed to building and erecting around our properties over 100 new nesting boxes. Linked to that, for the past 10 years, we have fed birds in three locations on our farm, three days a week, through the winter[37].

Because of our backgrounds, we have a long-term interest in developing an arm of CAPE Lapland in which we can work in collaboration with local environmental bodies and research-based / youth expeditions (eg international scientific groups like Earthwatch and BSES Expeditions who use volunteers to carry out surveys on species and to collect data on biodiversity) so

34 The 2-year project was coordinated by the Finnish Environment Institute under the leadership of the Steering Group for Evaluation of Threatened Species (LAUHA), appointed by the Ministry of Environment using 18 organism expert groups including one each for fish and mammals. The key objectives of the steering group were to guide the organism expert groups in their assessment work, to consolidate the results of the work, and to instruct in the process of prioritizing and allocating resources for the conservation of threatened species.
35 Green Activities 1.2 (l)
36 ECOT D.3.1. Wildlife Species
37 This aligns with Target 15.5 of the Sustainable Development Goals Indicators for Finland (based on the Finnish Voluntary National Report 2020 on the Implementation of Agenda 2030), to take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

that we can act as a liaison between local research agencies and those interested in extending baseline data resource information for future generations, worldwide[38].

In the interim, the National Park guide training scheme was designed to raise biodiversity and ecology knowledge within the participating companies locally, Anna has gone through the CBD (Convention on Biological Diversity) e-learning modules and Pasi is in regular communication with people in the Ministry of Forestry.

It would be good to know more about active nature conservation initiatives and research projects taking part in our destination so as to be able to promote them and give visitors the chance to support them economically or possibly even practically. I know, for instance, that there is an internship scheme possible through the national park accessible to young people from other European countries, but I am not aware of how they sign up to it or what value they bring.

We also have insect hotels, boxes designed for owls and flowers that support pollinators since all these creatures are important parts of our natural ecosystem. We have built both two drystone walls as artificial wildlife habitats[39] and have a niche in our so-called 'wood collection' area of uprooted old roots loved by a wide range of insects. Closer to the house we use native species for flowers and plant a herb and vegetable garden each year so as to reduce our dependency on food sourced from outside.

We cultivate and then plant native trees back onto our dog area when they are destroyed by the dogs and we recognise the value of the trees in the farm itself both as a tool for mitigating CO2 emissions but also simply as shade and as providers of a healthy living habitat year-round for the dogs. We also learn about and collect berries and mushrooms (part of everyman's rights in Finland) and process / freeze these for use in our client food through the year. Pasi occasionally hunts with the local club for the 1 or 2 Elk that they are expected to cull each year but otherwise doesn't take part in hunting.

We have found and acquired from the internet, a wide range of educational materials targeted at children that are linked to the arctic environment and we have also developed our own targeted tools in-house. We should do more about trying to get our local school interested (but it is a bit of an uphill battle and with language as a key limiting factor, especially since the school, despite being a designated wilderness school, is strangely hesitant to even let the children go on many of the free dog sledding or canoe or kayak outings we often offer). Regardless, we still get local kids we know involved in practical conservation – for instance litter picking along the roadsides. These simple actions at least reach one generation of local children at a time and of course we often get school children on work experience weeks[40]. And for our normal clients, we have started to make apps about the flora and fauna of the area.

In terms of expanding the knowledge of our guides and our clients (and ourselves), these screenshots provide an insight into some apps we have been developing as well as into some of the tests that the guides go through when developing their skills.

Habitats, Landscapes and Heritage

An assessment in 2018 showed that Finland had c. 400 habitat types, c.48% of of which are categorized as threatened. In the north, only 32% are considered threatened according to a new international method, the IUCN Red List of Ecosystems, used in the assessmen in a pioneering way by Finland. Management and restoration of habitats is aimed at restoring, recovering and preserving their natural features. Restoration and management of bird wetlands, for example, seeks to maintain diversity of bird species in the area. The preservation of semi-natural habitats, formed by traditional land use, requires continuous management.

Landscapes are an integral part of local identities, everyday lives and the wellbeing of people. Landscapes are formed by interaction between humans and nature, which makes them bearers of historical and cultural values. There are many traditions of researching, classifying and evaluating landscapes in Finland. The most important regulations promoting landscape protection are included in the Nature Conservation Act and the Land Use and Building Act.

There are 186 areas in Finland that have been classified as nationally valuable landscapes. These are our countryside's most typical cultural landscapes, whose value is based on their diverse, culturally-shaped nature, managed agricultural landscape and traditional architecture. Riisitunturi Fell landscapes facing Lakes Yli-Kitka and Ala-Kitka, Northern Ostrobothnia and Lapland.

The Finnish Natural Heritage Foundation is a non-governmental organization that promotes the protection of old growth forests. When searching for appropriate sites, the Finnish Natural Heritage Foundation focuses on old forests that haven't been cut and host a high degree of biodiversity. Generally speaking, the trees in a suitable forest represent numerous species and different life stages from saplings to full-grown trees and decaying ones.

One square protected forest in Enontekiö is Ullatieva. It was the first regional donation of a forest to the Finnish Natural Heritage Foundation from the region and is a 12km square section of undulating terrain between Lake Ullajärvi and and Lake Perilänjärvi known for its great number of lichen both on the trees and on the ground. The gritty ridge is an old primeval pine forest with a great view over the wilderness with all its forests, swamps, lakes, and rivers. According to Finnish folklore, elves and other spirits have been seen here and it is home to a 'seita', a place where the Sami have arranged their sacrificial rituals.

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38 To facilitate targeted and consistent reporting, the CBMP has chosen a suite of indices and indicators that provide a comprehensive picture of Arctic biodiversity, from species and habitats to ecosystem processes and ecological services. The suite of indices and indicators can be used to report on the current state of Arctic biodiversity at various scales and levels of detail. https://www.caff.is/monitoring-series/58-a-strategy-for-developing-indices-and-indicators-to-track-status-and-trends-in-a/download

39 ECOT D.3.5. Interactions with Wildlife

40 ECOT B1 Community Development