



Photo: Pasi Talvitie

Health Forest of Alkkianvuori – A True Gem of Lauhavuori-Hämeenkan- gas UNESCO Global Geopark

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Health Forest

Traditional folk healers already intuitively understood the health benefits of plants and nature, often using spells and symbolic language to promote wellness.

Modern scientific research into the health and well-being effects of nature began in the United States in the late 1970s. In the 1980s, Japan introduced the now-familiar concept of "forest bathing." In Finland, the collaboration between forest science and medicine started in the early 2000s at the Parkano Research Station of the Finnish Forest Research Institute. The first wellness trail with informational signs was created in conjunction with the Ikaalinen Spa and the University of Tampere. This model has since spread to several European countries.

It is fair to say that the Lauhavuori - Hämeenkan- gas Geopark area has been a starting point for a global expansion in research and innovation related to nature-based well-being, leading to the creation of new wellness tourism businesses.

The development of actual health forest practices in Finland began with the project "Three Models for Health Forests" (2014–2016), funded by the Ministry of Agriculture and Forestry. One of these models was an experiment by the Sipoo health center, which studied the health benefits of nature excursions as part of the treatment for mental health rehabilitators and patients with type 2 diabetes. This model has since inspired the establishment of several other health forests.

A health forest is an area or place where the well-being benefits of being in nature can be experienced more strongly than average. Health forests increase awareness and interest in the health and wellness effects of forest nature. Health forest activities involve guided excursions that aim to support a connection to nature and enable the experience of its well-being benefits.

Such activities can be carried out in many types of forests – economic, multi-use, or protected – as long as they have features that support well-being. The type of habitat and the area size influence the kind of wellness effect experienced by visitors. However, studies have shown that intensive commercial forestry temporarily reduces the recreational value of a forest.

Criteria

Finland does not currently have a certification system for health forests, but 31 quality criteria promoting health and well-being have been described based on research. The following sections describe how the Alkkianvuori area meets these criteria.

Accessibility

A restorative experience always involves a feeling of detachment. This feeling is enhanced when reaching the location requires some effort. Physically overcoming distance prepares the mind for a sense of separation.

Alkkianvuori is located in northern Parkano, near the border between Parkano and Karvia, approximately 30 km from Parkano and 25 km from Karvia. It is easily accessible by various means of transport, and the signage is clear. Parking areas are available for both cars and buses at the trailhead near Alkkialampi.

Trail Conditions

Trails have long welcomed people into the forest. In the 1960s, many footpaths wound through Finnish forests, used by hikers, berry pickers, and hunters. In unfamiliar terrain, trails reduce the risk of getting lost and provide a sense of safety. Steep climbs and descents are exciting but require physical fitness to be sources of well-being. A winding, surprising, and scenic trail stimulates the mind. Trails also reflect local history and forest culture.

In the 1980s, the Finnish Forest Research Institute established two nature trails at Alkkianvuori: the Lakilenkki (4.3 km) and the Ellinväita Trail (2.8 km). The Lakilenkki has a return route via Raatosulkonneva. The trail network and signage have since been improved and expanded to connect with the Neva-Lyly trail system.

Most of the trails at Alkkianvuori are easy to walk, though there are some rocky and more challenging sections. Elevation changes are notable in places, and boardwalks help with the more difficult parts. The trails are varied in both scenery and natural features, including different forest types and geological sites. Nature trail signs include QR codes for audio guides in multiple languages. Trails are marked with signs and symbols, and GPS tracks are available on Outdooractive.



Minimal Built Environment

Most people find natural, undeveloped landscapes relaxing and refreshing. In recent years, there has been strong evidence of the positive effects of minimally built environments on mental health.

The Alkkianvuori area is entirely unbuilt and uninhabited. It was once used by the Finnish Forest Research Institute for forest and peatland studies. Today, it is managed by Metsähallitus (the Finnish Forest Administration).

Varied Terrain

Clearly noticeable differences in elevation make an area feel interesting, diverse, and full of possibilities. Rolling terrain offers more visual information and provides interval training for hikers, where heart rates rise and fall.

Alkkianvuori is the highest point in Parkano, standing at 201 meters above sea level. The elevation difference between the highest point and the surface of Alkkialampi is 46 meters. The terrain is highly varied, with cliffs, undulating landscapes, and relatively flat heathlands and peat bogs.

Rock Outcrops

Exposed bedrock symbolizes stability and strength, evoking a sense of trust. These sunny, warm, and dry microenvironments invite people to sit and enjoy nature's peace.

At Alkkianvuori, rock outcrops are especially prominent on the northern slopes, which also offer magnificent views to the north and west.

Signs of the Ice Age

The most recent ice age, the Weichselian, began 115,000 years ago and ended 11,500 years ago. Traces of the ice age are visible throughout Finland. The landforms left behind by the glaciers deepen our understanding of nature's vast timescales and powerful forces.

Alkkianvuori emerged from beneath the ice around 9,400 years ago. At that time, it was a small, isolated rocky island covered with moraine in the ancient Ancylus Lake. Even today, hikers can admire remnants of the ancient shoreline on the western slopes of the mountain. The highest shoreline is currently located at an altitude of 190 meters above sea level.

When ascending from the south toward the summit, this ancient shoreline is revealed by a clear change in forest type. Below the shoreline, barren pine forests dominate, while above it, the visitor enters fertile spruce forests. This is due to the fact that water washed away the finest soil particles from the lower slopes, depositing them in lower-lying areas. In contrast, the moraine above the shoreline still contains these fine particles.

On the rocky eastern slopes of Alkkianvuori, the ancient shorelines of Ancylus Lake appear as distinct stony ridges known as "devil's fields" (pirunpellot). Visitors can also see large glacial erratics and rock fissures left behind by the movement of ice during the ice age.



Ancient shoreline boulder fields of Alkkianvuori.
Photo: Terttu Hermansson

Soil Contact

Natural environments contain beneficial microbes that strengthen our microbiome and immune system, especially when we are exposed to them from a young age. However, modern lifestyles no longer require people to spend time in forests or gardens.

Even walking on a forest trail provides exposure to greenery, not to mention touching plants and trees or hugging them. The best exposure comes from exploring forest soil or examining mosses and decayed peat. Alkkianvuori offers many opportunities for this kind of nature contact.

Water Elements

Even small bodies of water enhance the restorative power of a place. The closer one can get to water, the stronger its effect. Water naturally draws attention and helps relieve restlessness, irritability, tension, and anxiety.

The starting point for the Lakilenkki trail is by Alkkialampi on the northern side of Alkkianvuori. Along the trail, there are also two large seasonal wetlands that fill with snowmelt in spring and gradually dry up over summer. On Raatosulkonneva, groundwater flows from the summit nourish the slope bog vegetation throughout the summer. In spring, these flows are often visibly active. On the Ellinväita trail, a meandering stream fed by springs runs through the swampy forest.

Forests

Forested environments are inherently restorative. For Finns, forests have historically been a source of spiritual healing, mental clarity, food, medicine, safety, and economic well-being. Research shows that forests are more effective at promoting recovery than urban parks. They are experienced as peaceful, comforting, and safe.

Alkkianvuori's trails lead hikers through a variety of forest types. The area is largely covered by forest, including protected sites and managed woodlands that blend into the landscape. These include stunted pine forests on rocky ground, dry heath pines, pine-dominated wetland forests, and lush spruce forests and swamps.

Open Landscapes and Views

A suitable amount of open space is a core element of a restorative environment. The farther one can see, and the more sky that is visible, the more rejuvenating the area feels. Seeing into the distance offers a sense of control and safety. Views with varied focal points at different distances are more engaging.

At Alkkianvuori, sparse pine forests and open mires like Raatosulkonneva create semi-open environments. On the steep cliffs of the northern slope, one can enjoy wide views of Finnish forest and mire landscapes.

Diverse Habitats

The more ecologically diverse an area is, the stronger its potential restorative effects. Variety keeps interest alive, offers visual surprises, and continuously draws attention. Seeing different habitats on a single hike increases appreciation and understanding of nature. Wandering through a changing landscape also boosts creativity and helps solve problems.

Alkkianvuori's biodiversity is further enhanced by the opportunity to collect wild berries, mushrooms, and herbs, which contribute to both mental and physical health. The good feelings from nature can also be carried home—through food.

The vegetation in Alkkianvuori consists of mostly barren forest types resembling those of Kainuu. Many northern plant species also appear in the undergrowth. Historically, the area was even called the "Lapland of Satakunta."

The slopes of Alkkianvuori have long been popular berry-picking areas among locals. Their abundant yields are likely due to favorable microclimatic conditions. The most plentiful berries include lingonberry, bilberry, and crowberry, with some bog bilberry and cloudberry also present.

Aesthetically Pleasing Landscape

The restorative power of an environment is enhanced by everything that produces aesthetic pleasure. In a beautiful landscape, variation and repetition exist in harmony. Diversity and species richness are often perceived as beautiful. Research shows that beauty is one

of the most important reasons people seek nature. Beauty brings pleasure. It alters brain chemistry, activating neural pathways rich in opioid receptors. This increases the activity of endorphins—the brain’s natural feel-good chemicals. We feel calm and content. Experiencing beauty is similar to feeling empathy. Outer beauty helps us experience inner wholeness and strengthens our ability to see beauty in ourselves.

The varied and diverse nature of Alkkianvuori offers a wide range of aesthetically pleasing landscapes and details. A hiker can admire intricate natural features or sweeping vistas on a single trip. As with a work of art, the aesthetic experience of nature is more than the sum of its parts. Light, shadow, form, and proportion all matter—and the details are enchanting. One must simply pause to observe them. When they do, the experience of the place resonates like a complete artistic composition.

Sufficient Size and Wildlife Encounters

To be genuinely restorative, an area must be sufficiently large. However, more important than its actual size is how unified the area feels and how well it matches the skills and abilities of the visitor. The sense of spaciousness helps to mentally disconnect from the routines of everyday life.

Perceived vastness is influenced by factors such as habitat type, vegetation density, terrain variation, the shape of the area, and the character of the surrounding landscape. If an area is ecologically diverse—as Alkkianvuori is—it can feel larger than another site twice its size with only one dominant habitat. Alkkianvuori’s sense of scale is enhanced by its location within a vast, nearly uninhabited expanse of forest and mire.

The area’s restorative effect is further strengthened if visitors can observe wild animals. At Alkkianvuori, the Suomenselkä region’s influence is evident in the relatively sparse presence of wildlife compared to surrounding areas. However, the proportion of northern bird species is significantly higher than in nearby regions.

Impressive trees

Old, large, or otherwise remarkable individual

trees represent the continuity and diversity of life. Such trees evoke feelings of trust, safety, and connection across generations.

At Alkkianvuori, these veteran trees are most often found on rocky cliff slopes, where difficult terrain has spared them from logging. On these barren rocks, old pines have not reached the impressive size seen in more fertile areas. They are often small and stunted—but aesthetically beautiful.

Along the nature trail, hikers encounter an ancient, weathered pine covered in burls, which is protected under the Finnish Nature Conservation Act. This 19.5-meter-tall elder grows burls nearly the entire length of its trunk. According to local lore, the tree was once destined to decorate the gate of the regional forest manager’s estate. Fortunately, nature intervened: a snowstorm prevented the tree from being felled and transported. Thus, the



Alkkianvuori’s Ancient Burl Pine.
Photo: Terttu Hermansson

pine was spared and remains today as a silent guardian of Alkkianvuori.

Natural State

A natural forest is diverse, stable, and resilient to disturbances. It is a condition that has developed over a long time with minimal human interference. Natural environments accept all stages of life, including aging and decay.

In health forests, a mix of lightly managed and untouched areas can offer a wider range of experiences for different visitors. Alkkianvuori represents this well: it includes fully protected and differently managed sections that blend together harmoniously.

Signs of Human Activity

Visible traces of past human activity in nature can enhance a place's restorative value and deepen interest in the area. Cultural heritage adds a human dimension to the experience and strengthens our connection to the landscape.

The forests and mires of Alkkianvuori were once part of the research areas of the Finnish Forest Research Institute. Many signs of scientific experimentation from that era can still be found in the area.

The first triangulation tower was built on the summit of Alkkianvuori in 1949. After it collapsed, a new tower—approximately 15 meters tall—was erected in 1971 at the same location. The decaying remains of that tower can still be seen in the terrain today. Both towers were constructed from timber sourced on-site.

Cartographers continued to use triangulation towers as late as 1985. From these towers, they could measure directions and distances to prominent landscape features, helping ensure the accuracy of map proportions. Today, such towers are no longer needed, as satellite measurements have replaced these observations.

Clean, Unworn Terrain and Fresh Air

A restorative environment is free of litter and shows no obvious signs of wear. The impression of untouched nature adds a sense of timelessness to the experience. Litter has a strong negative impact on the nature

experience. Trash, erosion, and vandalism—individually or together—undermine the sense of safety, which is essential for recovery.

So far, the terrain of Alkkianvuori has remained clean, with very few signs of erosion. There are no visible signs of vandalism in the area either.

Breathing is directly connected to our bodily functions and emotional state. In today's world, clean air is a privilege we should value. In Finland alone, air pollution is estimated to cause around 1,800 premature deaths each year.

Trees and other plants help purify the air. Air in forests—especially after rain—is perceived as particularly pleasant and uplifting. Forest air also contains various organic volatile compounds, which create the distinctive scents of the forest. These olfactory experiences leave strong memory traces.

Because Alkkianvuori is located relatively far from residential areas and busy roads, it can be assumed that clean air and the scents of forests and mires can be enjoyed there throughout the year.

Silence, Natural Sounds, and Natural Darkness

Sounds have a significant effect on the human autonomic nervous system, which regulates physiological responses such as tension and relaxation. Sounds also influence mood and comfort. The less human-made noise in a location, the more restorative the environment is. In this context, silence does not mean the absence of all sound, but rather the absence of noise caused by human activity.

The soundscape plays a vital role in how we experience a place. While noise and silence are relative concepts, it is clear that truly quiet places are becoming increasingly rare in today's world.

Because Alkkianvuori is located far from residential centers and busy highways, it is an excellent location for observing and appreciating the peaceful sounds of nature.

Light pollution is one of the fastest-growing forms of environmental disturbance. It refers to excessive, disruptive, and harmful artificial lighting. Nighttime artificial light interferes with the regulation of the internal biological clock. Disruptions to this rhythm affect melatonin production and, consequently, many other bodily functions.

At Alkkianvuori, hikers are far from the harmful effects of light pollution. On dark autumn and winter nights, one can admire the brilliance of the starry sky in complete silence. When moving through the forest in darkness, our senses become more alert—night vision improves, hearing sharpens, and touch becomes more sensitive.

Visitor Numbers and Low Risk Level

In nature, it is easier to be present with oneself and to connect with others. People feel freer from social roles, and the closeness of nature also reduces feelings of loneliness. In natural settings, people often experience a stronger sense of equality. Nature fosters community as well. Humans have an inherent need for both companionship and solitude.

In densely populated regions of the world, national parks often have to limit the number of visitors. Fortunately, this is not yet the case in Finland. While visitor numbers at Alkkianvuori have slightly increased in recent years, it is still uncommon to encounter many hikers at the same time. The area continues to offer genuine tranquility, yet remains relatively close to inhabited areas and has good transportation connections.

A restorative place should also be safe—one where there is little risk of accidents or disturbing incidents. The terrain should be easy to assess and navigate so that one can see where they are stepping and where they are headed. In a safe environment, animals are neither a nuisance nor a danger. Even the calmness of the parking area contributes to the overall sense of safety.

The Alkkianvuori area is generally very safe, with clear and well-marked trails that minimize the risk of getting lost. Only in some rocky sections is extra attention required while walking. During the snow-free season, insects like mosquitoes, midges, horseflies, and deer flies may occasionally be bothersome. Large predators are rarely seen in the area. Likewise, there have been no reports of vandalism in the parking area.

Campfire Opportunities and Restorative Structures

Structures like shelters, fire pits, and boardwalks welcome hikers into the area. Signs and

waymarks improve safety, while boardwalks make challenging terrain more accessible.

Observation towers are the highlight, but simpler structures like viewing platforms also add value. A fire pit is a key feature of any hiking area. Watching the flames draws attention naturally. For many, the highlight of the trip is having campfire coffee and snacks.

At Alkkianvuori, there is a small hut with a fireplace at the trailhead, and boardwalks on difficult trail sections. Benches are also placed near the ancient rocky shores. In 2024, additional improvements and new structures will be built, making the area even more attractive.

Stories, the Sublime, and the Spirit of Place

Many natural sites have stories associated with them. These narratives are part of our intangible cultural heritage and increase appreciation for the place. Place names may also have a storytelling quality. Our need for stories remains strong, even in a digital society. Whether true or imagined, good stories evoke emotions and are the soul of a health forest.

So far, no official stories have been documented from Alkkianvuori, but the post-glacial landscape provides fertile ground for old tales.

One may experience the sublime—a feeling of awe in the face of nature’s vastness—It describes an experience of something so vast that it surpasses human ability to measure, control, or replicate it. It is a feeling of merging with something greater, helping a person accept their own smallness, fragility, and impermanence.

In nature, the sublime can be experienced during a dramatic thunderstorm or while gazing at a star-filled sky.

At Alkkianvuori, a hiker may encounter this feeling of awe while reflecting on the area’s geological history and the events of the last Ice Age, or while admiring the expansive forest and mire landscapes from the edge of a cliff—or on a dark night, beneath a clear, starry sky.

A landscape reveals only what is visible to the senses. Different places have different atmospheres. Yet people often perceive something more—a distinctive atmosphere or character, referred to as the “spirit of place.” A

place with a positive spirit enhances recovery and empowerment.

Alkkianvuori offers a rich variety of landscapes and habitats, each evoking its own unique atmosphere. It is a place of many spirits, each waiting to be discovered.

References

Leppänen, M. & Pajunen, A. 2017. Terveysmetsä. Tunnista ja koe elvyttävä luonto. Gummerus Kustannus Oy. 297 s.

Lipponen, M., Vehmasto, E., Simkin, J., Teranen, K., Rätty, A. & Pursiainen, P. 2023. Terveysmetsätoiminta hyvinvoinnin ja terveyden edistämisessä. Luonnonvara- ja biotalouden tutkimus 94/2023. Luonnonvarakeskus. Helsinki. 66 s.

Diverse Alkkianvuori.
Photo: Terttu Hermansson

