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# PLAN FOR ENVIRONMENTAL EDUCATION

IN NORTHERN SATAKUNTA &  
LAUHANVUORI – HÄMEENKANGAS UNESCO GLOBAL GEOPARK

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# OPERATING ENVIRONMENT

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# GEO LEARNING ENVIRONMENT

This plan for environmental education in the Northern Satakunta and Lauhanvuori – Hämeenkangas UNESCO Global Geopark was published within the project Northern Satakunta on the Waves of Green Transition. The project was funded by EU's Just Transition Fund (JTF) and the Regional Council of Satakunta. It was led by Satakunta University of Applied Sciences (SAMK) in 2023-2026.

The project develops the GEO learning environment of the Northern Satakunta. The GEO learning environment is one of the three clusters of competence in the Northern Satakunta, alongside the Kirkkokallio Eco-Innovation Park and construction product group.

The GEO learning environment includes learning contents and sites related to environmental education, such as the GEO Learning Centre in Honkajoki, Kankaanpää and the Lauhanvuori – Hämeenkangas UNESCO Global Geopark. The GEO Learning Centre plays a key role in providing environmental education in the region. Lauhanvuori – Hämeenkangas Geopark presents the unique geological story of its region, valuable nature sites and special culture. The GEO prefix in the word learning environment refers to both biodiversity and geology, which influences natural phenomena, species and human activities.

In the GEO learning environment, young people have a possibility to be a part of sustainable development work already from the general upper secondary school through summer jobs and other learning opportunities. It also promotes the employment of young people in regional businesses through targeted slow recruitment.



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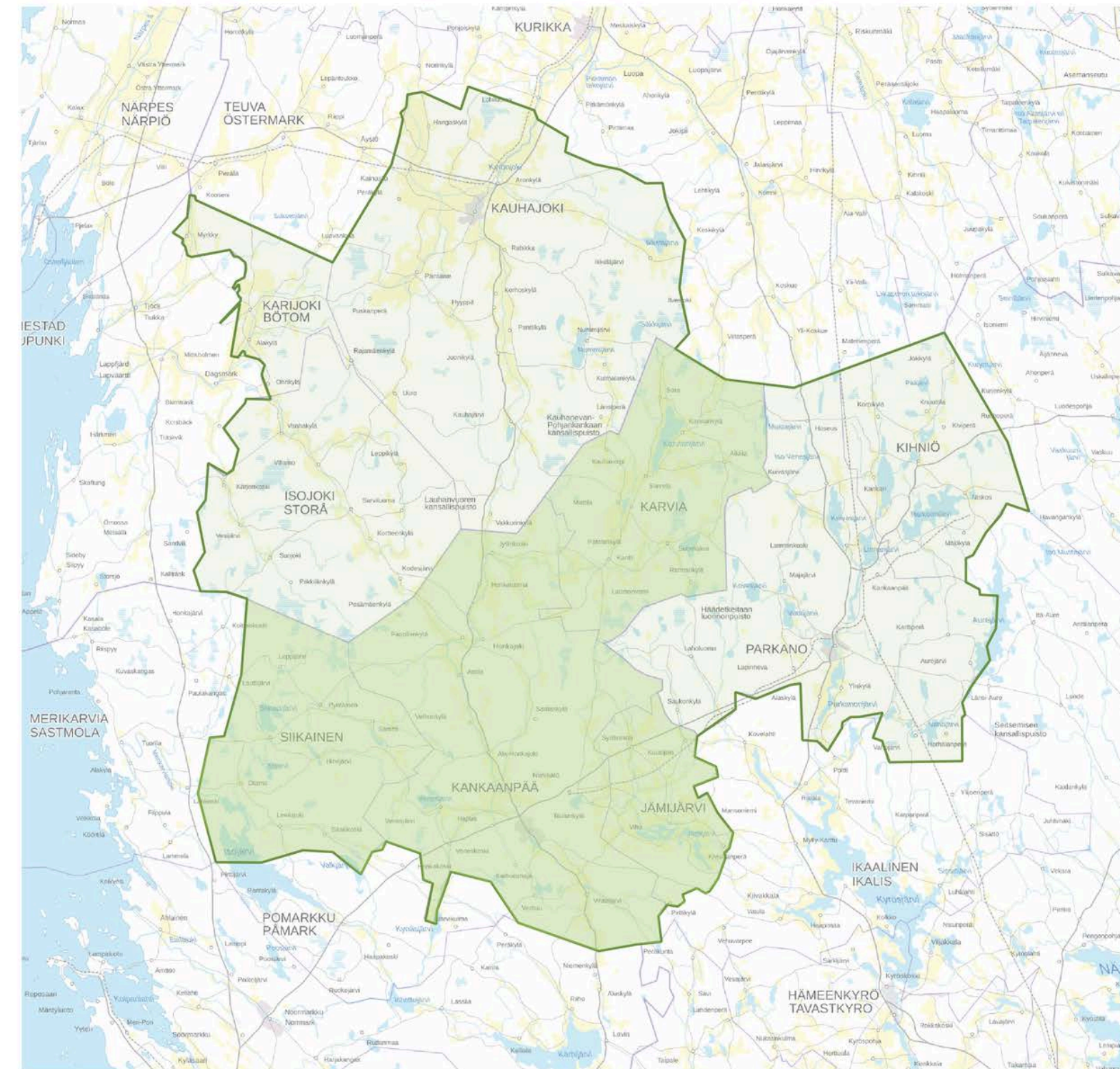
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Equipment at the GEO Learning Centre. Photo: Piia Orava

# PLAN FOR ENVIRONMENTAL EDUCATION

- The plan includes the following municipalities in the Northern Satakunta: Kankaanpää, Jämijärvi, Karvia and Siikainen. Lauhanvuori – Hämeenkanngas UNESCO Global Geopark is located in the area of the mentioned municipalities.
- The plan covers age groups from early childhood education up to higher education.



# EDUCATION SERVICES IN THE AREA

- **Satakunta University of Applied Sciences'** School of Fine Arts is located in Kankaanpää.
- **The general upper secondary schools** of the area are in Kankaanpää and Honkajoki.
- **Vocational education** in the Northern Satakunta is provided by Sataedu in Kankaanpää. Sataedu offers 12 fields of study.
- **Pre-primary and basic education:**
  - In Kankaanpää, the number of preschool education units varies according to need (municipal and private ECEC centres (= early childhood education and care centres)).
  - Kankaanpää has six primary schools, two secondary schools and one comprehensive school in Honkajoki (including administrative pre-primary education).
  - Karvia comprehensive school: pre-primary and primary from grade 1 to 9.
  - Siikainen comprehensive school: pre-primary and primary from grade 1 to 9.
  - Jämijärvi central school: pre-primary and primary from grade 1 to 9.



SAMK Kankaanpää School of Fine Arts  
Photo: Kankaanpään valokuvaamo

# ENVIRONMENTAL AND CLIMATE WORK IN THE AREA

- The City of Kankaanpää is a leading example in climate work and environmental education in the sub-regional area. The City of Kankaanpää has a climate programme for the years 2017-2025, which includes the promotion of sustainable development in schools and early childhood education as one of its objectives. The City of Kankaanpää also has an environmental education plan for primary education (from grade 1 to 9).
- The Geopark area has been a pioneer in domestic energy production in the field of peat production after the wars and is now among the pioneers in renewable energy production. Large-scale wind and solar power projects are planned and have been implemented in Northern Satakunta, also in cooperation with municipalities in South Ostrobothnia.
- The Kirkkallio Eco-Innovation Park is a world-class circular economy cluster that is a significant and innovative entity in the region. An online learning environment is being planned in this context.
- Organic forests in Siikainen.



Photo: Martti Tikka

# LAUHANVUORI – HÄMEENKANGAS UNESCO GLOBAL GEOPARK

- Lauhanvuori – Hämeenkanngas Geopark works as a learning platform.
- Geoparks help to understand the Earth's history through their valuable geology, wildlife, scenery and cultural heritage. These values are also preserved in the parks.
- The story is brought to life at guided Geopark sites and through the website (Lauhanvuori – Hämeenkanngas UNESCO Global Geopark: <https://lhgeopark.fi/en/>). Geoparks also preserve the special traditions and customs that have emerged from the interaction between the people of the area and the environment.



# LAUHANVUORI – HÄMEENKANGAS UNESCO GLOBAL GEOPARK

- Each Geopark has its own special geological theme which differentiates the area from other Geoparks.
- The geological theme of Lauhanvuori – Hämeenkanngas Geopark, From mountains to mires, describes the development of diverse mire habitats in the area as well as its ancient mountains and where they disappeared over the course of the last two billion years.
- The signs of landscape change can be found in the deposits of land and bedrock, but they are often hidden.

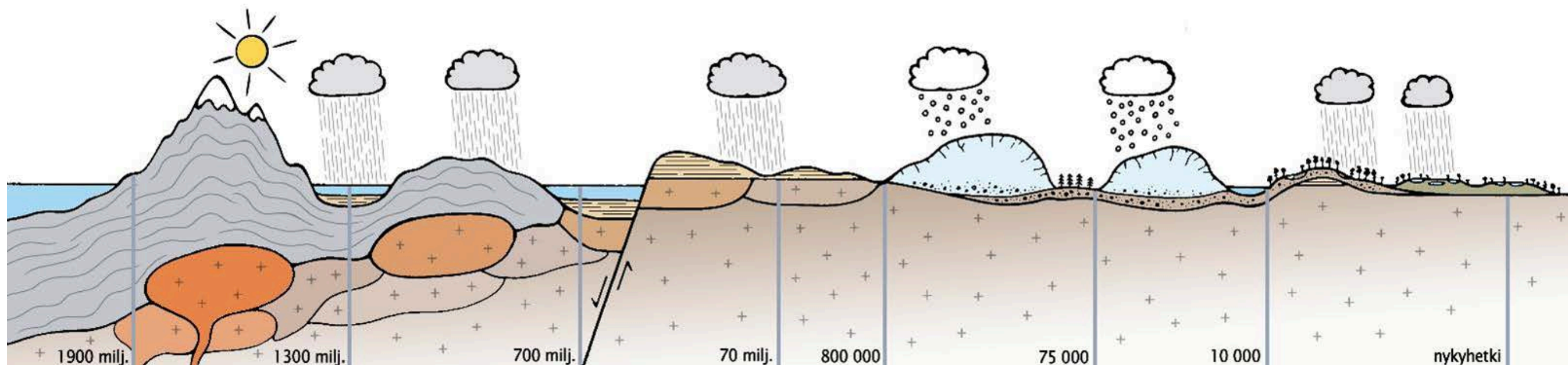


Illustration: Tupu Vuorinen

# SPECIAL NATURE

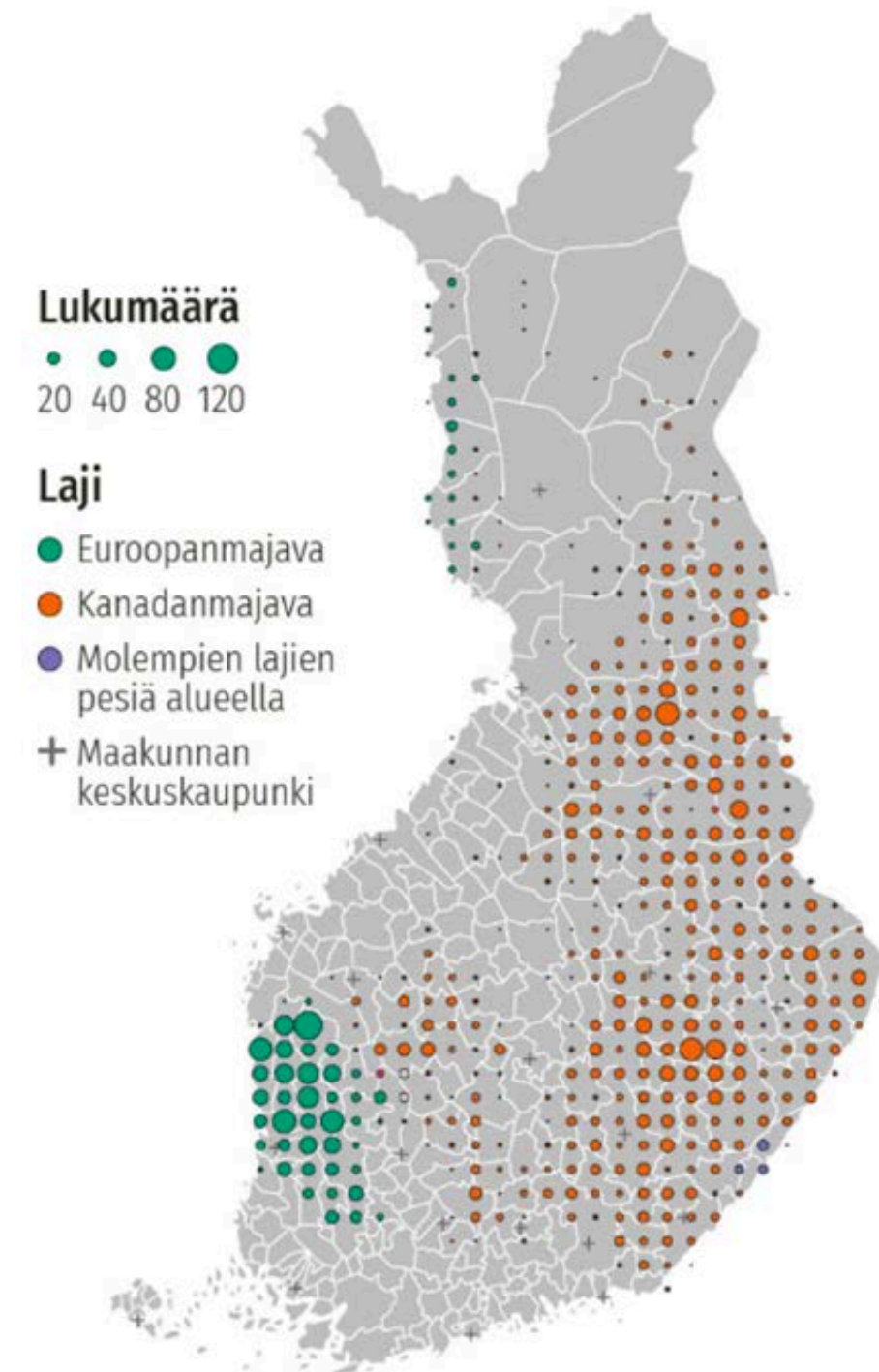
- The Lauhanvuori – Hämeen kangas Geopark area also covers specific habitats and species, due to its geological history. The area is on the southern edge of the Suomenselkä and is both the southernmost edge of the range of many northern species and the northernmost range of southern species. The conservation of habitats and species in the area is supported in several ways.
- Metsähallitus, a state-owned enterprise, owns a large number of sites in the area, which are covered by various conservation programs. In addition, projects are being carried out to develop species under special protection. The nature of the entire Geopark area provides a rich learning environment for schools.
- The geology, habitats and species of the area have been extensively inventoried in recent years and a considerable amount of information is available. Nationally and regionally endangered species have been identified in large numbers in the inventories, and the protected sites in the area are important for them.
- The mire nature is a major and most recent theme in the geological history of the Geopark area. The area is an exceptionally representative area for Finland in terms of the size of its raised bogs and combined mire types, with most of the boreal combined mire types. Other valuable habitats include sun-exposed slopes in esker forests, herb-rich forest, spring-fed mires, streams and small rivers.
- Species of special concern in the area include
  - Blushing Bog Moss, *Sphagnum molle*
  - Woodlark, *Lullula arborea*
  - Golden Eagle, *Aquila chrysaetos*
  - Sand Pink, *Dianthus arenarius*
  - *Caryocolum arenariella*
  - *Nola karelica*
  - Rattle Grasshopper, *Psophus stridulus*
  - Freshwater Pearl Mussel, *Margaritifera margaritifera*

## EXAMPLES ON FLORA AND FAUNA

- The Hämeenkangas ridge areas are the habitat of **Sand Pink (*Dianthus arenarius*)** and ***Caryocolum arenariella*** which is dependent on the first. Sand Pink can only be found in a few places in Finland. It is a good example of the successful coexistence of man and nature because without human influence the sun-exposed slopes and margin areas would be covered in dwarf-shrub and therefore Sand Pink would suffocate. Hämeenkangas is used by the Finnish Defence Forces, aviation enthusiasts, sportsmen and nature tourists, who keep the landscape open by trampling and clearing it. Metsähallitus also monitors and carries out various conservation efforts to preserve the species.
- The river Karvianjoki is a habitat for the **Freshwater Pearl Mussel (*Margaritifera margaritifera*)**. The Freshwater Pearl Mussel is a species of special concern under the Nature Conservation Act and Decree. The LIFE project and volunteer work restores habitats also in Karvianjoki for this species and for the (brown) trout, which is essential for the Freshwater Pearl Mussel's reproduction.

## EXAMPLES ON FLORA AND FAUNA

- Northern Satakunta is an important habitat for the **European beaver** (*Castor fiber*). Once hunted to extinction, the European beaver has been successfully introduced into Satakunta. Efforts are being made to keep it separate from the Canadian beaver (*Castor canadensis*) that was introduced to Finland (See beaver habitats on the figure. Green stands for the number of European beavers, red for Canadian Beavers and violet for both).
- European beaver's habitats are home to many rare species, and there are many factors involved in their successful coexistence.
- Schools can study phenomena in their local environment from the point of view of different species.



Metsästysseurojen ilmoittamat majavien runsautta kuvaavat asutut talvipesät vuoden 2020 kartoituksen mukaan.

Figure: Metsästäjä magazine



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# EDUCATION ENVIRONMENT

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**"Environmental education is about living a sustainable life. Sustainable development is progress that meets the needs of the present without depriving future generations of the possibility of meeting their own needs."**

(Sarkkinen 2017)



Photo: Laura Koivumäki

# EDUCATION ENVIRONMENT

- Both the pre-primary and basic education curricula are based on the values of sustainable living.
  - The schools also organise outdoor education and excursions to nature sites in the area. There is also a commercial mobile nature school in the area.
  - **A water research website** has been set up for primary schools to collect information on the status of local waters using simple analytical instruments (water backpacks) donated by Rotary or Lions clubs. The results are stored on a joint website <http://vesi.geodialogue.com/>, in Finnish. Data has been collected over a couple of years.
- Nature and the environment are emphasised in the region's **general upper secondary education**.
  - The Honkajoki upper secondary school's environmental education studies include plenty to do and experience outside the classroom, as well as innovative solutions in the schoolyard and in cooperation with local businesses.
  - The GEO Learning Centre operating alongside Honkajoki upper secondary school opens opportunities for even more extensive cooperation up to international level.
- SAMK Kankaanpää School of Fine Arts has built a new work education model that reflects the school's role as a sustainable development actor in the sub-regional area.
  - The promotion of sustainable development is a consistent theme in the education and is implemented through educational content and societal impact.
  - The principles of sustainable development are reflected in the curriculum, for example at the level of assessment criteria.



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# GOALS

NORTHERN SATAKUNTA / GEOPARK



# GOALS OF THE ENVIRONMENTAL EDUCATION PLAN

- The environmental education plan aims to increase learners' understanding of sustainable development and the natural world around them.
- The principles of sustainable development are important in future workplaces, and young people learn about a responsible working culture already at school.
- Continuity in promoting and integrating the sustainable development goals into schoolwork within the curricula at all school levels.
- Expanding the content and activities of the GEO learning environment and strengthening the role of the GEO Learning Centre in the region.
- Strengthening the role of SAMK Kankaanpää School of Fine Arts as a driver of research, development and innovation for sustainable development and environmental awareness in the region, in cooperation with the region's general upper secondary schools.
- Establish environmental education cooperation and services in the Geopark area as part of the normal activities of the organisations, utilising the Geopark brand and networks.



Photo: Piia Orava

# ACTORS AND TARGET GROUPS

## Actors in the Northern Satakunta

Pre-primary education

Basic education

Secondary education

Higher education

## Target groups

Teachers at all grades

Learners

Artists visualising the themes of sustainable development



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# THEMES

ENVIRONMENTAL EDUCATION PLAN

# THEMES

## UN Sustainable Development Goals

### Main goal

### Themes of the environmental education plan

### Learning environment / sites



End poverty in all its forms everywhere

Supporting the local economy, developing RDI activities, hands-on culture, industriousness

Entrepreneurship education, RDI projects, events



End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Sustainable food production, safeguarding/protection of species and varieties that thrive in the region, local food, security of supply

Varieties (berries, mushrooms, wild herbs, game), locality in food production



Ensure healthy lives and promote well-being for all at all ages

Well-being effects of nature, physical activity

Well-being paths, networks of routes for different types of leisure activities

# THEMES

## UN Sustainable Development Goals

### Main goal

### Themes of the environmental education plan

### Learning environment / sites



Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Lifelong learning, geography-related studies, sustainability, equality, environmental studies

The GEO learning environment, a comprehensive approach



Achieve gender equality and empower all women and girls

Equal opportunities to participate and progress

The GEO learning environment, a comprehensive approach, equality and equity plans for schools



Ensure availability and sustainable management of water and sanitation for all

Groundwater, water use, stormwater, litter prevention

Springs, streams, rivers, lakes, local water studies, art as a way of stimulating thinking and highlighting solutions, e.g. *Stomach ache from Plastic* campaign in Pori

# THEMES

## UN Sustainable Development Goals

### Main goal

### Themes of the environmental education plan

### Learning environment / sites



Ensure access to affordable, reliable, sustainable and modern energy for all

Circular economy, renewable energy sources

Circular economy, wind and solar farms, sand battery



Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Local trade and industry, environmental certificates, sustainability

Entrepreneurship education, introductory periods to work life, business cooperation, sharing economy



Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Circular economy, construction, sustainable transport, scientific collaboration, architecture

Kirkkokallio Eco-Innovation Park, building cluster, cycling paths, the School of Fine Arts, local examples, e.g. modern architecture in Kankaanpää

# THEMES

## UN Sustainable Development Goals

### Main goal

### Themes of the environmental education plan

### Learning environment / sites



Reduce inequality within and among countries

Access to nature for all, access to education, Everyman's Right in Finland

Outdoor destinations, accessibility



Make cities and human settlements inclusive, safe, resilient and sustainable

Accessibility (sites, services, museums, art), environmental art, municipal climate programmes

Museums, galleries, local nature, the circle of art in Kankaanpää, urban planning (municipalities)



Ensure sustainable consumption and production patterns

Recycling, authentic materials, local production and products, prevention of waste, reduction of consumption

Kirkkokallio Eco-Innovation Park, local producers, *Million Trash Bags* campaign

# THEMES

## UN Sustainable Development Goals

### Main goal

### Themes of the environmental education plan

### Learning environment / sites



Take urgent action to combat climate change and its impacts

Environmental restoration, monitoring one's environment, mires and forests as carbon sinks

Natural environment: habitats and species, increasing/improving biodiversity



Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Water samples, species, Freshwater Pearl Mussel, Brown Trout, LIFE projects, restoration

The river Karvianjoki, local water studies, LIFE measures



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Geodiversity, biodiversity

Geosites, landscapes, biodiversity increase/improvement, e.g. meadows, bee hotels



# THEMES

## UN Sustainable Development Goals

### Main goal

### Themes of the environmental education plan

### Learning environment / sites



Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Local identity, cooperation and inclusion, individual empowerment

Opportunities for participation (e.g. participatory budgeting in Kankaanpää), cooperation



Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

The importance of cooperation, networks, Finland's commitments

Networks, general government, associations, research



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# IMPLEMENTATION

ENVIRONMENTAL EDUCATION PLAN

## EARLY CHILDHOOD EDUCATION

- Application of the Geopark ECEC centre concept at the desired scale.
  - A model from the Salpausselkä Geopark (in Finnish: <https://www.lahti.fi/kasvatus-ja-koulutus/luontokoulu-kaisla/salpausselka-geopark-ymparistokasvatusymparistona/>).
    - Criteria such as "Every child at the facility has access to the local nature at least once a week" and "Every year the facility selects one of the UN Agenda 2030 goals to be addressed in a development project".
    - Environmental education tips, such as "Organise an invasive species event in the local environment" and "Map the local environment regularly with the children using a map and a mapping sheet".
- The Geopark will carry out a project to create a model for the area.
- Nature pre-primary schools.

## PRIMARY SCHOOL

- Knowledge of the Sustainable Development Goals, concrete actions.
  - Regular local water sampling and recording on <http://vesi.geodialogue.com/>, in Finnish.
  - Visits to the GEO Learning Centre and use of the GEO learning environment
  - Visits to Geopark sites (related to the different goals)
  - Business visits, museum visits
  - School-specific projects: bee hotels and butterfly bars, finding nature's own art, invasive species events, spring cleaning of the environment, cycling days
- Own projects.
- Utilising projects by different actors.
- Guest experts.
  - Organised by the Lauhanvuori – Hämeenkangas Geopark when possible
  - Sponsors

## LOWER SECONDARY SCHOOL

- Knowledge on the Sustainable Development Goals, concrete actions.
  - Exploring one's own environment: climate, water, mire, species
  - Visits to the GEO Learning Centre and use of the GEO learning environment
  - Geopark information and visits to Geopark sites (related to different goals)
  - Business visits, museum visits
  - School-specific projects: bee hotels, bio art, invasive species projects, spring cleaning, bike excursions, learning about restoration projects
- Own projects, possible internationality.
- Utilising projects by different actors.
- Guest experts.
  - Organised by the Lauhanvuori – Hämeenkangas Geopark when possible
  - Sponsors

## GENERAL UPPER SECONDARY SCHOOL

- Knowledge on the Sustainable Development Goals, concrete actions.
  - Exploring one's own environment: climate, water, mire, species
  - Visits to the GEO Learning Centre and use of the GEO learning environment
  - Geopark information and visits to Geopark sites (related to different goals)
  - Business visits, museum visits
  - Voluntary work regarding invasive species, spring cleaning of the environment
  - Restoration projects
- GEO Learning Centre activities and projects.
- Cooperation and joint projects (international perspective, use of the Geopark platform)
- Junior Ranger training.

## VOCATIONAL UPPER SECONDARY EDUCATION

- Knowledge on the Sustainable Development Goals, concrete actions.
  - Responsibility, certificates
  - Awareness of the risks associated with one's own profession (e.g. committed environmental infringements)
- Business visits.
- Resource wisdom.
- Recycling.

## HIGHER EDUCATION

- Knowledge on the Sustainable Development Goals, concrete actions.
  - Comprehensive theme
  - RDI activities related to the goals
  - Communicating the Sustainable Development Goals
- Cooperation and joint projects (including international, use of the Geopark platform).
- Business cooperation.

## SHARED IMPLEMENTATION

- Joint projects at all levels of education every year, e.g. interdisciplinary biodiversity activities such as a bee hotel, creating meadows.

## FINANCING

- JTF funded project to develop the GEO learning environment.
- Geopark's international environmental education project 2025-2026.
  - Application of the Geopark ECEC centre concept
  - GEO-education in primary schools
  - International geo-education in upper secondary schools, Geopark visits
- Maintenance of the GEO Learning Centre, pilots through project activities.
  - Identify a funding model



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This environmental education plan was produced as part of the project *Northern Satakunta on the Waves of Green Transition*. The project was led by Satakunta University of Applied Sciences and funded by the EU's Just Transition Fund (JTF) and the Regional Council of Satakunta in 2023-2026. The City of Kankaanpää was involved as a strategic partner in the project.

[psvsa.samk.fi](https://psvsa.samk.fi)