



**METLA INTERREGIIB NEST-project**



**Finnish Forest Research Institute – Joensuu**

## **Accessible tourism plan for Koli National Park**

**2006-2010**



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## Covering note

Accessible tourism plan for Koli National Park to the years 2006-2010 is part of the National Park's sustainable tourism development project. The schedule of the plan is linked to the National Park's plan for the management and the use affirmed in the year 2004 (Master plan of Koli National Park 2003-2010). Premises and principles of the plan are introduced in the Master plan.

In this plan have been discussed the service points and trails of Koli National Park from the improving accessibility point of view. Under consideration are general principles and instructions for dimensioning of accessible hiking and development operations for individual destinations. Because some of the tourism services are externalized, the plan concerns also service activity of the enterprises inside the National Park in the real estates owned by the state. In this respect the plan has been established together with each individual actor.

Accessible hiking plan for the Koli National Park has been made by the NEST-project as the EU/InterregIIB –program's partly financed activity. Responsible for collecting the material for the plan and doing the tentative preparation was ISAK-project coordinator Maarit Ukkonen from North Karelia University of Applied Sciences. As an expert for the plan has been M.Sc. Timo Ekroos from North Karelia University of Applied Sciences. The plan has been finished by the undersigned together with Maarit Ukkonen.

Koli the 10.th April 2006

Park director

Lasse Loven



## **1. Koli National Park as a accessible nature tourism destination**

The Koli National Park is one of the most popular tourist attractions in North Karelia. In the beginning of the planning period there will be visits from about 110 000 tourists and hikers in the National Park. The National Park with its landscapes is part of the national heritage and scenery of the Finnish soul. The specialities of the National Park are the landscapes with their slash-and-burn cultivation areas, open fields and nature of the highlands. In the history of the area remarkable Finnish artists have helped to make the cultural scenery and environment of the Park well-known and visible. The National Park is administered by the Finnish Forest Research Institute (Metla) and scientific research activity and environmental education are practised in the area of the Park.

The highland sceneries of the Koli National Park are known for their great differences in the altitude that are quite remarkable under Finnish circumstances. When planning the service structures of the National Park, ensuring the free access can cause serious difficulties for constructors and executors. Most of the trails in the Park are natural trails, which structures haven't been implemented from the total accessibility point of view. Some trails have been planned and built to improve the accessibility but for some customer groups that aim won't come true. Free access to some places can usually be gained only with help of a special equipment or an assistant.

It was an aim for the development of the tourism services of the National Park, to gain an as extensive as possible accessibility to the terrain and to the buildings. When planning the new building base, the reasonable accessibility has been taken into account, e.g. in the structures of the Heritage Centre, the Hotel, Kolin Rynänen and the Alamaja. However with the structures of the rental cottages and traditional yards of the Park this has not worked out.

There is a lot to improve in the guidance and the advice helping to get accessibility, which will be examined in the context of this plan.

## **2. The goals and technical solutions of the plan**

### **Guide signs for better accessibility**

The signs are produced that way, that the surface material is non-shiny and non-reflective. The signs are placed in clearly discernible places and functionally so that the information of the sign is easy to apply to the environment. The text and signs must form a clear contrast with the background. In the contrasts the tone value difference has to be at least 50 %. (RT 09 – 10692).

The signs are placed 1,4 – 1,6 meters above the surface of the passage. Also the signs with rise- and recess patterns, that help the visually impaired, are placed at the same height.



The text height of the signs showing location and direction, is 25-40 mm when the reading distance is a couple of meters away and when it's possible to get closer to the sign. In nameplates and in other similar signs, which are read from 1-3 meters, the text height is 70-100 millimetres. The font chosen for the signs should be big and distinct, for example Helvetica Medium. The background of the text is hold in matt-finished material.

### **Features of the accessible route**

For the routes referred to be accessible, the chosen passage is easy to notice, its surface is firm enough and as even and non-sliding as possible (RakMkF1 Instruction). In general, these kinds of routes are also suitable for hikers who use aids (for example wheelchairs). The surface of the passage is planned and implemented in such a way, that it's as hard and non-sliding as possible. If the surface is made of paving stones, the joints between the stones are at maximum 5 mm wide. The rises and the bumps at the surface of the route can be maximum 5 mm high.

To help the orientation, the surface of the passage should be constructed in such a way, that it feels evidently different. The surface can be for example cobble, gravel or a lawn zone. The passage is dimensioned broad enough for two wheelchairs to face.

The inclination of the passage can be at the maximum 5 % in the longitudinal direction and 2 % in the width direction. Depending on the location and usage of the passage, the free width of the route is at least 90 cm. The recommended width of the passage is however 1,2–1,8 meters, where the 1,8 m width part enables the facing of two wheelchairs.

The base of the route has to be load-bearing, flat, smooth and resistant against wear. Stone ash is suitable for the surface material of the trail. When as natural material as possible is used to surfacing the route, the trail will be softer than a similar trail. The elasticity of the surface makes the use of the wheelchair more difficult. Because of that, inclinations over 1:15 are avoided.

There shouldn't be any overhangs or other crashing causing constructions in the passage. And the headroom above the passage should be at least 2,1 (RakMkF1). In a safe passage there is, in addition to an elevated border, also a railing, plantations or a border, at least as high as about 60 cm, so that the danger of stumbling is avoided.

Resting places with benches are reserved along the route. A proper distance on the walkways is a five minute-walk or a distance of 250 meters, which is suitable for old people or for people, who get easily tired from walking. Next to the benches is a reserved open space for the wheelchairs and the baby carriages, so that they don't block the trail during a resting break.

The suitable height of the lowered curb, compared to the driveway, is 30-40 mm. The suitable inclination for the curb, and the passage continuing from it, is at maximum 5% (1:20) (RakMkF1 Instruction).



## **Access able outdoor furniture**

Objectives for the outdoor furniture heights:

### Benches

- the height of the seat is usually 45 cm
- a height of 30 cm is suitable for children and for short people
- a height 50-55 cm is suitable for people with inflexible knees or hips
- One can switch from a wheelchair to a bench that is 50 cm high, if the armrest can be lifted up.

### Tables

- height 75-80 cm
- for the people sitting in wheelchairs: consider the room for the knees
- width min 80 cm
- height min 67 cm
- depth min 60 cm

## **Unrestricted car parking**

Some of the building's parking slots have to be suitable for wheelchair users. The parking place meant for the wheelchair users has to be situated practically, near to the entrance of the Heritage centre. The parking slots also have to be marked with an appropriate sign (RakMkF1).

The amount of the parking slots for the disabled should be at least 1 pcs / 50 parking slots. The parking slots are equipped with the ISA-mark, which is installed on a stationary pole at a visible height (about at 1,4 meters high) and also marked permanently on the surfaces of the parking slot. The size of the parking square is 3,6 m \* 5,0 m.

## **Unrestricted buildings**

### Sanitary facilities

The inclination of the floor is max 2 %. In front of the washbasin and the toilet-seat is enough space for the wheelchair to turn, at least 1500 mm in diameter.

The height of the toilet-seat is at least 450 mm, but it would be better if it was adjustable. On both sides of the toilet-seat there should be a 800 mm wide free space for switching from the wheelchair to the toilet-seat.

The height of the props of the toilet-seat is at least 800 mm from the floor or they are adjustable. The props can be lifted up and it would be better if they were attached to the wall, not to the floor. The mutual distance of the armrests is 600 mm. A trapeze bar is



attached on the ceiling in front of the toilet-seat. Hand shower is placed no more than 300mm from the toilet-seat. The hand shower is equipped with a push button for the usage.

The washbasin and its attachment are dimensioned for weight over at least 90 kg. Under the washbasin is room for knees, min 600 mm in depth and min 670 mm in height. Next to the washbasin is a descent space. A descent space is left also in the “dry zone” that means not only on the edge of the washbasin. A hook for clothes is placed at a height of 1200mm from the floor.

Soap holders, hand towel dispensers, switches and plug points are installed 900 mm high from the floor. The lower edge of the mirror is installed at a height of 900 mm from the floor and the higher edge is 2000 mm from the ceiling.

### Doors and stairways

The free width of the doorway is at least 800 mm. The door can be opened, closed and locked with one hand. The door is equipped with a horizontal handle with the same width as the door plate. The handle is 800 cm from the floor.

On both sides of the stairs there are hand guide bars that are safe and easy to use. The guide bars continue also on the terraces and they extend over the starting and ending points of the stairs for 300 mm. The heights of the two overlapping hand guide bars are 700 mm and 900 mm from the surface of the stair steps (RakMkF1).

The hand guide bar has preferably a circular profile,  $\varnothing$  30-40 mm and a total circumference of 120-180 mm. The distance between the hand guide bar and the wall is at least 45 mm. The guide bar is attached from below so that one doesn't have to release the grasp at the attachment points. 1200 mm before the step there is a cautionary surface on the passage. The surface is implemented by using different materials and colours. For colouring, a colour in contrast to the room is used (tone value difference at least 50 %) to distinguish the hand guide bars from the background, the stair steps from the floor surface and the front edges of the stair steps from the previous steps. A profile of the stairs is painted on the wall to make it easy to perceive the rhythm of the steps (RT 09 – 10692).

## **3. The assessment of the accessibility in Koli National Park**

### ***3.1 Arrangement for the accessibility assessment***

The accessibility-check for buildings, structures and routes of the National Park was implemented in August 2005. Targets of the examination were certain central places in the service centre Ukko-Koli (the upper yard of Ukko, the prime minister's campfire site, and the Heritage Centre Ukko), the path leading to the viewing point of the Ukko-Koli and the trail leading from parking lot (P2) of Ukko-Koli to Mäkränaho.



In the assessment participated the following evaluators of the accessibility: Seppo Lehkoinen, Joensuun Reumayhdistys (Rheumatism Association of Joensuu); Jari Rummukainen, Pohjois-Karjalan CP- yhdistys (North Karelia CP-association) and Raija Kortelainen, Joensuun Invalidit (Invalids of Joensuu). The evaluators used different kinds of devices for agitation; a manual wheelchair, an electrical moped and an electrical wheelchair. Coordinators of the assessment were Mervi Niemelä-Hytönen and Maarit Ukkonen from the ISAK-project of the North Karelia University of Applied Sciences. From the National Park's planning team of the sustainable tourism participated the expert of the quality planning, M.Sc. Hanniina Manner and the planner of the path renovation, undergraduate in geography, Mari Selkimäki.

The goal of the assessment was to get an overview about the present state of the accessibility in the National Park concerning few central destinations, based on special groups' feedbacks. At the same time wanted to be tested how the general norms of the accessibility suit the demanding circumstances of the National Park.

### ***3.2 Assessment targets and development proposals***

#### The prime minister's campfire site

The location of the site near the yard, the parking lot and near to other services, is good. The route leading to the site is sand-based and relatively firm, but there is a rise in the beginning of the route and a short and sheer (about 15 %) downward slope, leading to the campfire site. The surface of the route is partly bumpy and there are no railings on the route. There is no clear guide-sign to the campfire site. The campfire site is surrounded by benches from every side, what makes the access near to the fire impossible for people who need aids. The benches are placed on different levels.

The improvements proposed by the assessment group:

- To increase the number of the guide-signs leading to the place.
- The roughness of the route surface should be removed.
- A railing should be installed on the right side of the route.
- The inclination of the route should be decreased by either raising the campfire site or making an alternative covered route from the side of the ski-lifts to the fireplace.
- The benches around the fireplace could be rearranged, so that the side to the route stays open.

#### The upper yard of Ukko and the yard's guides

The yard area is spacious and broad from the mobility point of view. It is also secure, because there is no car traffic in the area, except the service and procession transports ("Car-free upper yard"). Disabled person's parking slots are placed in the yard area near to Hotel Koli; it is impossible to park a car closer to the Heritage Centre and starting point of the trail leading to Ukko-Koli. The upper yard, near to the Heritage Centre, has a bumpy



surface (dice pavement and rain water chutes) what makes the moving with aids more difficult.

The map-based general guides near the Retkitupa are placed too high for the children, for the people using wheelchairs and for the short people (see the picture below). The guide-signs have reflective glass surfaces, which makes the reading of the signs more difficult. The blue-green colour shade of the guide-signs is functional for reading, but the font size of the text is too small.

In the maps the distances between the different destinations are marked unclear. As preceding information, the distances are important especially for the people moving with aids, so they can chose a route according to their own condition and abilities.

The improvements proposed by the assessment group:

- The guide-signs should be placed lower
- A non-reflecting surface is installed to the guide-signs
- In connection with renewing the signs, attention should be paid to the text size, to the contrast and better markings of the distances should be done.
- One parking slot for disabled should be created near to the Heritage Centre or at the starting point of the route leading to Ukko-Koli.

### The trail to Ukko-Koli

In the yard of the Heritage Centre there are no clear guides to the starting point of the route leading to Ukko-Koli. At the starting point of the route there is one guide-sign (a guide-board hanging between two trees), but its contrasts are lame.

The profile of the route is sheer and it isn't very suitable for a person moving alone with the aids. There are no terraces along the way, where a wheelchair user could rest, what makes the moving on the trail more difficult. On the sides of the route there are no places for sitting either. The trail is bounded in the beginning with a border on the right side of the trail, which has been situated higher to the left side of the trail. In some places the border is missing totally. The border helps the visually impaired people get to know the route. It secures also the movement of the wheelchair users by pointing out the edges of the route.

The surface of the route is relatively firm but in some places rain-erosion has worn out the soil. There's some inclination sideways that makes the moving for a wheelchair user more difficult. Guide-signs are missing at the last crossing point of the route.

It's impossible to get to the highest top of the Ukko-Koli with a baby carriage or by using a wheelchair. The accessibility has been improved by the viewing point built in the lower grade level. At the end point of the route, in so called accessible viewing points, the terrain is stony and rough. The last curve, when turning towards the viewing terrace, is dangerously inclined. In the viewing point, the land slopes slowly downward and the railing on the edge of the area is low (see the picture below).



The improvements proposed by the assessment group:

- From the direction of the Heritage Centre the way to the starting point of the route should be guided better.
- Guides should be added into the route as a mention that the route is extremely demanding for people using aids and that hiking the route requires the presence of an assistant.
- A resting place to sit and enough space also for people using aids, should be made in the midway of the route.
- Borders at both sides of the route should be added so that they are continuous.
- The surface of the trail should be repaired at those places where the erosion has taken off the surface of the soil. At the same time the sidewise inclination should be fixed (especially the last curve of the route).
- The guide showing the way to the so called accessible viewing point should be added to the last crossing point of the route.
- The surface of the viewing point should be levelled off and the stones removed.
- The side railing of the viewing point should be heightened to make it safe.

### The trail to Mäkränaho

The starting point of the trail to Mäkränaho is situated in the lower yard of Ukko-Koli in the southern end of the parking lot (P2). When arriving from the direction of the cablecar the elevated passage ends in a high curb. Because of the curb, the trail suits very poorly to people using aids, such as a wheelchair or a walker. Wheelchair users have to go over to the roadway already at the cablecar station.

The trail guide at the start of the path is placed too low, so it doesn't stand out from the environment properly. In the trail there is a lack of distance signs. Along the trail there are no guide-signs telling about the flora, fauna or culture.

The profile of the trail is relatively even, which enables weak people, using aids or moving with a stroller, to go along the path. In some places, the profile of the trail is inclined towards the edges and the erosion has removed the ground from both sides of the path. The gentle features of the trail's uphill and downhill are relatively passable.

There is a lack of resting and sitting places and broader passing places on the side of the path. Furthermore the coarse gravel, used here and there as a covering of the path, doesn't suit for an accessible route. In some places there are wooden borders on the side of the trail which improve the safety of the path for people using aids.

The downward slope leading to Mäkränaho is relatively steep (over 15 %) and in addition to that, the curve before the downhill is demanding. In Mäkränaho there is no resting place: no seats, benches or tables, although the destination is scenically the most interesting place along the trail. The trail is quite straight and includes long enclosed sceneries (plantations, sapling stands), so it is experientially relatively one-sided compared to the highlands.



The improvements proposed by the assessment group:

- The end of the passage leading from the cablecar to the parking slot P2 should be lowered to become a ramp.
- The guide-sign at the start of the trail should be placed higher.
- More resting and sitting places and broader spots suitable for passing should be located along the trail.
- Coarse gravel as a covering should be replaced with stone ash.
- The side-inclination should be removed by adding some more soil (stone ash) to the trail.
- The wooden boarders should be installed at least at the most difficult places of the trail.
- Signs telling distances should be added along the trail.
- For the route going down to Mäkränaho, a new, gentler line could be searched.
- Tables and places to sit should be located in Mäkränaho to enable resting.
- Along the trail experiential guide- and information-signs which can be sensed with different senses could be placed.

#### Facilities in the Heritage Centre Ukko

The entrance to the Heritage Centre is difficult; the front doors are heavy and there is a lack of contrast in colour around the doorway. The guide-sign next to the entrance stands out poorly from the glass wall and the interpretation of it is hard for the weak-eyed people. The front of the service desk in the hall is on one level, what rejects the children, the wheelchair users or the short people to reach the table level. The side of the info desk is supplying better access. Part of the coat racks are placed lower and they also suit for the children and the wheelchair users.

The toilet for disabled people is spacious but the entrance is in a cramped spot. The hand towel dispenser in the toilet for the disabled has been placed uncomfortably and the mirror has been hung too high. Under the washbasin has been left enough space for legs, but the location of the washbasin doesn't enable the wheelchair users to get near to the sink. There's not enough space next to the sink to put down things. The top meant for child care doesn't stay in an upper position and the hose of the hand shower can't be reached from the toilet seat. The light switch of the toilet stands out from the wall only poorly.

The stairs leading to the second floor are lacking a hand guide bar on the other side of the stairways and the front edges of the steps are not marked, so that a person walking down the stairs would clearly perceive the step edges. When walking up the stairs, the steps have a good contrast colour (cf. the pictures below). The profile of the steps hasn't been painted on the wall.

The entrance of the second floor's auditorium can be reached also by elevator. In the auditorium there is a possibility to sit on the first row at the table for people using aids. The height of the table can't be adjusted but moving it in the depth direction is possible. There is an induction loop system in the auditorium for the hearing impaired.



The improvements proposed by the assessment group:

- The background colour of the guide-sign next to the front doors of the Heritage Centre should be changed so that the sign will stand out better from the wall.
- The contrasts of the entrance's surroundings should be improved.
- The washbasin of the toilet for the disabled should be located so that more space is left on its both sides and the mirror above the sink should be placed lower.
- A longer hose should be installed to the hand shower of the toilet for the disabled.
- The light switch could be marked better in the toilet for the disabled.
- A hand guide bar should be installed in the stairway.
- The edges of the steps could be marked more clearly and the profile of the steps could be painted on the wall.

## **4. The development of the services for the special groups**

### ***4.1 The special groups of travellers and the development of the destinations***

In the beginning of the planning period about 110 000 tourists and hikers will visit the Koli National Park. At the end of the planning period the number of customers is predicted to increase to the level of 150 000 people per year. A remarkable amount of the visitors, at least 10 – 20 % of the total customer flow, are senior citizens, families with children and baby carriages, wheelchair users, physically disabled and visually impaired people. Compared to an average visitor these customers can be considered as special groups.

Facilities for the special groups are developed during the planning period as a part of the overall improvement of the National Park's services. The principles below will be followed when the individual development operations are done in the buildings, in the structures or in the terrain:

- The guide-signs are improved so that their visibility and clarity get better. To the destinations meant to be accessible, the signs are made to be explored by the hands.
- The accessibility of the service structures is brushed up by investments that improve the quality and which follows also the building instructions for improving the accessibility.
- The accessibility rating (1 – 3) is done for the trails and the rating is marked on the maps and on the guide-signs on the terrain. The paths meant to be accessible are repaired to the level demanded by the accessibility standards. To these paths the necessary guide bars for the visually impaired and broader sites to increase the safety of the path are made. New trails will not be opened for the special groups; the accessibility is improved by repairing the already existing destinations and by guiding the customers.
- The structures of the campfire sites are repaired so that in the targets meant to be accessible, the access near to the fire by a wheelchair is improved.



- As an experiment, a chance to use technical aids, for example by the enterprisers or the development projects, renting a cross-country electrical wheelchair is given.
- The National Park doesn't arrange motorized transportation for the physically handicapped to the terrain destinations. The motorized transportation must not cause danger or disturbance to the other customers or to the nature of the National Park.

#### ***4.2 Development operations for the accessibility in the planning period 2006-2010***

<b>Target</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>Expense, €</b>
Heritage Centre Ukko		x				5 000
Hotel Koli			x			5 000
The Upper Yard and the campfire site				x		3 000
The Smoke Sauna and the campfire site				x		5 000
The Alamaja House, the Harbour and the campfire site					x	3 000
The Art and Culture Centre Kolin Rynänen and the campfire site					x	3 000
Ollila-Mattila					x	5 000
The Path to the Ukko-Koli		x				5 000
The Likolahti Bay, the campfire site			x			2 000
Parking areas			x			6 000
The Trail to the Mäkränaho				x		10 000
Maps and guide-signs for the trails		x	x	x		10 000
Internet information	x					2000
Collecting customer feedback	x	x	x	x	x	2000
<b>Total</b>						<b>64 000</b>

*Table 1. The timing and the expenses of the development operations for accessibility*



With the development project of the Koli National Park, presented in the table 1, significant improvement to the quality in the central targets favoured by the special groups can be achieved. Operations are divided into periods over the whole planning time, so that their budgeting is easier, if an action allowance has to be used for the implementation. If the development project gets a separate funding, the plan can be implemented faster. The cost estimation of the operations is about 64 000 euros.

User experiences from the operations are collected from the customers and a potential further development program for the next planning period will be devised based on the feedback.

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