

# **Habitat restoration, habitat management and species conservation by Metsähallitus in the protected areas of Southwestern-Finland Case studies**

Compiled and edited by David Bogyo  
(Hortobagy National Park Directorate, Hungary)  
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## 1. Acknowledgements

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## 2. Personell

I was born in 1984 in Hungary, Tatabánya. I have an MSc degree in Biology (University of Debrecen, Hungary, 2007) and I'm still working on my PhD. I started working as an assistant and researcher in 2007 at the University of Debrecen. I have been lived and worked in Vienna for 6 months in 2009 (University of Vienna) as a guest researcher. Since the beginning of 2011 I work in the position of a biologist and project coordinator (projects in the field of habitat restoration and biodiversity conservation) by the Hortobagy National Park Directorate (Hungary).

### Contact

[bogyodavid@hnp.hu](mailto:bogyodavid@hnp.hu) /mobile: +36308668138 / address: HNPD, Sumen u. 2., Debrecen 4024 (Hungary)

## 3. Introduction

Right now I work for the Hortobagy National Park Directorate (Hungary) as a biologist and project coordinator. I manage two LIFE Projects in which Hortobagy National Park Directorate is an Associated Beneficiary. These projects are habitat restoration and species conservation projects. The LIFE Project Safeguarding the Lesser White-fronted Goose Fennoscandian population in key wintering and staging sites within the European flyway (LIFE10 NAT/GR/000638) focuses on a rare migrating geese species with partners from Finland as well (WWF Finland and Metsähallitus). In these projects you can find habitat restoration actions in Hungarian wetlands, monitoring and research on feeding habitat of the species too. The LIFE Project Restoration and conservation of the Pannonic salt steppes of Pásztó grassland with sustainable management (LIFE10 NAT/HU/000018) focuses on habitat restoration and management on a protected grassland with water management and pasture. Beyond these project I am the responsible for the professional background of two EU and Hungarian Government funded habitat restoration projects (KEOP framework). Both of them are focusing on wetland restoration and suitable management of different wetland types in North-Eastern Hungary: peatbogs, transitional mires, marshes, lakes, sodic lakes and meadows.

With the help of the Alfred Toepfer Natural Heritage Scholarship I was able to visit a Europarc Member Organisation (Metsähallitus) - and first of all the sites managed by them – which have large experience in wetland restoration projects and management of important bird areas. However, some of these areas are highly important for European migratory flyways for protected bird species, such as geese, shorebirds, ducks, cranes...etc. Some habitats - like peatbogs and transitional mires - are very rare and fragmented in Hungary, but Hortobágy National Park Directorate makes huge efforts to protect them. I visited these habitat types in the management and project areas of Metsähallitus and learn about best practices in Finland, where these habitats are more widespread and coherent. The sites of my visit covered successful LIFE and LIFE+ projects of Metsähallitus like the Boreal Peatland LIFE (sites in SW Finland), Kokemäenjoki LIFE (the biggest ever restoration of a birdlake in Finland), Wetlands LIFE (the management of the most valuable wetlands in SW Finland).

I think after visiting different projects (closed and running) and habitat types I can use the experiences in my everyday work in our current projects. These experiences will help me mainly by planning our upcoming habitat restoration, species conservation and management projects in the management area of the Hortobágy National Park Directorate in Hungary.

#### 4. Home Institution

Hortobágy is the largest continuous natural grassland in Europe. The Hortobágy National Park, established in 1973 is the country's largest protected area of 82 thousand hectares.



Group of visitors at the alkaline steppes of Kékes-puszta (Hortobágy NP) in the framework of the UNESCO World Heritage Training

(Photo: David Bogyo, 2012)

Hortobágy has outstanding landscape features and is a unique example of the harmonic coexistence of people and nature based on the considerate use of the land, maintaining great biological variety in respect of species and habitats.

However, at first sight there is nothing here. If you look around, the most conspicuous thing is that your eyes are not arrested by any buildings, hills or mountains. The mirage can be a spectacular sight on hot summer days, where you see something that is not in fact there. A major part of the area of the National Park is formed by natural habitats, alkaline grasslands, and meadows, smaller and bigger marshes enclosed between them. Some artificial wetlands covering a much smaller area are of considerable importance: these are the fishponds, situated on 6 thousand hectares.

The marshes and fishponds are breeding habitats of birds and important sites for the migrating birds. So far the appearance of 340 bird species has been registered in Hortobágy, of which 160 species nest in the National Park. It cannot be doubted that one of the most spectacular sights is the migration of the cranes in the autumn. Tens of thousands of Cranes, which is also the symbolic bird of the Park, can be seen every October as they fly above the grasslands to their overnight roosting places.

The Hortobágy National Park has been inscribed on the World Heritage List by UNESCO on the 1st of December in 1999 in the category of cultural landscapes, since the Hortobágy Puszta have been used by humans for grazing their domestic animals for more than two millennia.

A large number of tough, undemanding local breeds can be found here: the Hungarian Grey Cattle, Water Buffalo, Raczka Sheep. Less ancient species are the curly bristled Mangalica Pig, which gives good bacon, and the Nonius horse.

The visitors are amazed at the skills of the horsemen and at the sight of the galloping herds of horses. The herdsmen living on the grasslands do not have permanent buildings for themselves or their animals. Most of the ancient herdsmen's buildings are very simple but also practical, made chiefly of reed.

The sweep-pole wells for watering the animals have become symbols of the Hungarian grasslands. Inns were built 10–12 km apart along the commercial roads crossing the plains, where travellers could rest and the herdsmen turn in for the night. Tourists still like to visit these inns where they can taste the excellent herdsmen's dishes and other specialities of the cuisine of the Great Plain.

However the Hortobagy itself is the center and most known sites of the management area of the Hortobagy National Park Directorate, our organization covers a bigger area as a nature protection management body.

We work in more than 3 counties in North-Eastern Hungary in 4 Landscape Protection Areas, 20 Nature Conservation Areas and more than 100 Natura 2000 SPA and SCI sites.





Peatbog in the Bereg-plain with *Eriophorum vaginatum*  
(Photo: David Bogyo, 2012)

Our partner park sin an international level are: Dartmoor NP (UK), Biebrza NP (PL), Apuseni NP (RO), Badlands NP (USA)

For more information visit [www.hnp.hu](http://www.hnp.hu)

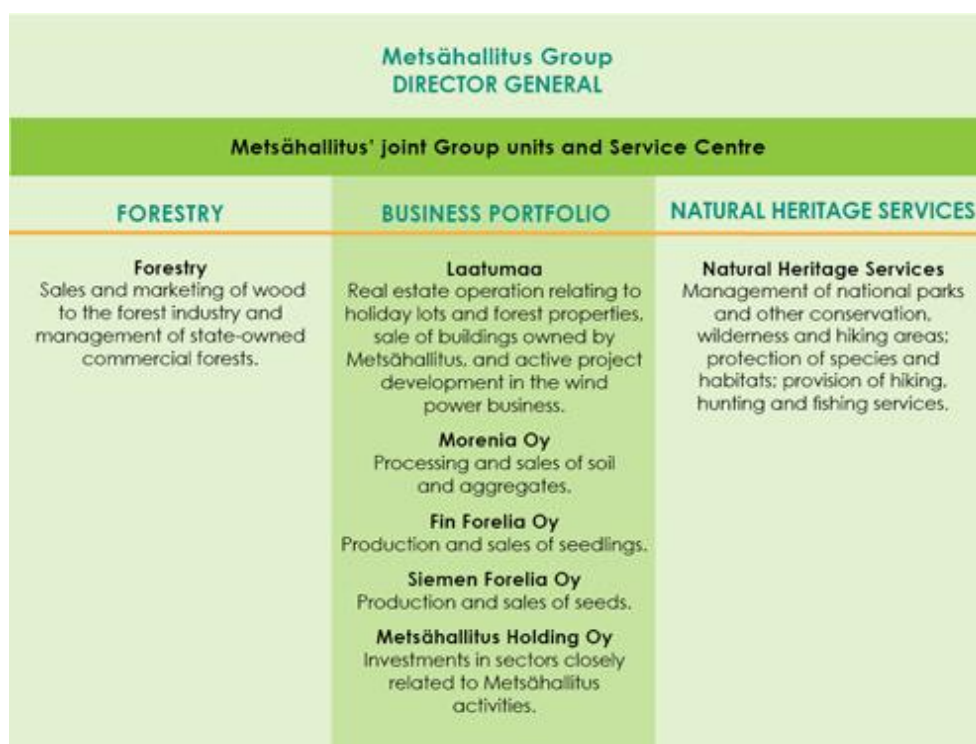
## 5. Host Institution

Metsähallitus is a state-run enterprise whose tasks are divided into business activities and primarily budget-funded public administration duties. Separate business units have been established for different activities.

The history of the national forest and park service, today's Metsähallitus, began in 1859 when Czar Alexander II signed a declaration on the founding of a forest management institution. Its area of operations covered state lands that were named crown parks, but monitoring private forestry, at least nominally, was also a part of the forest management institution's tasks.

The structure and tasks of Metsähallitus have changed over the years, along with many reforms in forest administration. By a 1921 decree Metsähallitus was designated a central agency under the jurisdiction of the Ministry of Agriculture and Forestry, and was given the task of “managing, monitoring and promoting Finnish forestry”. That has remained a basic mission until today, although Metsähallitus’ responsibilities no longer extend to private forestry. Since 1983 Metsähallitus has managed nature conservation tasks under the guidance of the Ministry of the Environment.

Metsähallitus became a state enterprise in 1994, at which time many administrative tasks were completely excluded from Metsähallitus’ realm of activities. Along with the new enterprise, some of Metsähallitus’ business units branched out into their own brands, such as Wild North, which offers tourism and recreation services, and Laatumaa, which specialises in the land plot and forest real estate business.



(Source: [www.metsa.fi](http://www.metsa.fi))

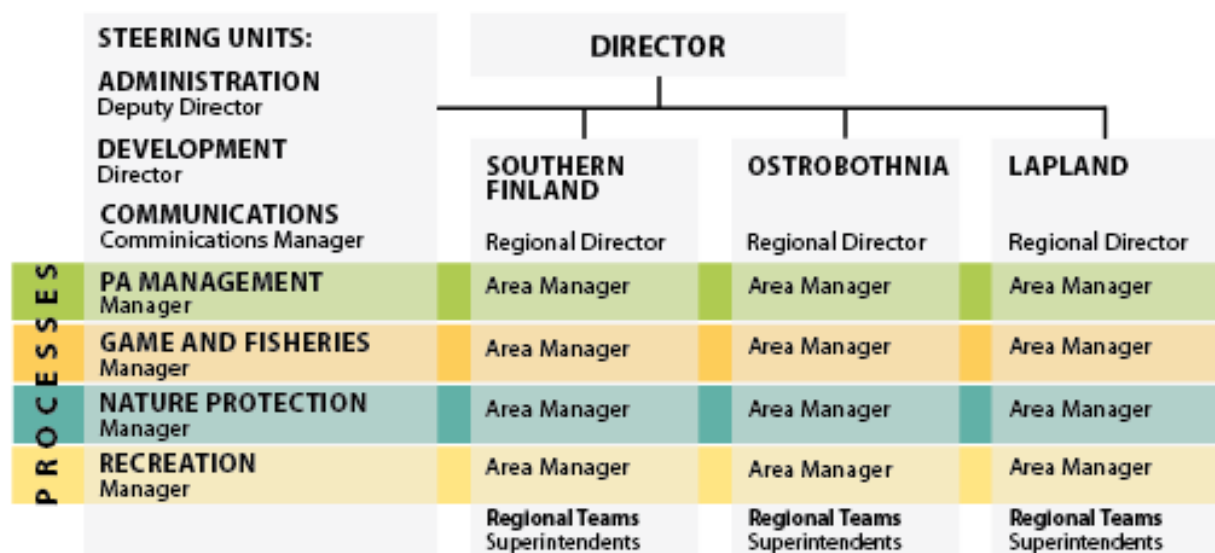
Business units of the Metsähallitus:

- Forestry, which produces some 85 per cent of Metsähallitus’ revenues
- Laatumaa, which specialises in plot and forest real estate business and provides rental accommodations.
- Metsähallitus also has subsidiaries:
- Fin Forelia Oy produces tree seedlings for forests
- Siemen Forelia Oy produces tree seeds for forests
- Morenia Oy, specialising in soil resources business.

Metsähallitus' public administration duties involve, among others, managing nature conservation and hiking areas, control of hunting and fishing rights and promoting conservation and recreational use of State lands and waters. The Natural Heritage Services business unit is primarily responsible for public services.

Natural Heritage Services unit provides the public administration services of Metsähallitus:

- management of statutory protected areas and other areas reserved for conservation
- protection and care of endangered species
- management of wilderness areas, recreational areas and other special areas
- free-of-charge hiking services for the public
- customer services for Metsähallitus as a whole
- public authority issues relating to nature protection
- game and fisheries supervision
- game, fisheries and off-road traffic permits
- forest tree seed acquisition and security storage
- duties related to floating



(Source: [www.metsa.fi](http://www.metsa.fi))

State-owned protected areas are managed by Metsähallitus' Natural Heritage Services. Nature reserves, wilderness areas and hiking areas established on state-owned lands are the central parts of the protected area system in Finland. Almost all of these are included in the European Union's network of Natura 2000 areas. Privately-owned protected lands further expand on the state-owned network of protected areas. The protected areas located in Finland are an important part of the international network of conservation areas.

- Nature reserves are established on state-owned lands by law or by a government regulation or on privately-owned lands by the decision of Finland's environmental administration.



- Wilderness areas are established in accordance to the Wilderness Act on state lands in Lapland.
- National hiking areas are established in accordance to the “Outdoor Recreation Act” (ulkoilulaki) on state land in different parts of Finland.

The network of protected areas in Finland includes not only areas already established by statute, but also yet to be established areas which are part of nature conservation programmes. The government has made a decision in principle that these areas be reserved as protected areas.

The total employment effect of Metsähallitus corresponds to 3000 person.

For more information visit [www.metsa.fi](http://www.metsa.fi)

## 6. The Europarc Federation

The Europarc Federation is an independent, non-governmental organisation. Europe's protected areas - its national parks, nature parks, and biosphere reserves - play a vital role in safeguarding the continent's nature, its wildlife and landscapes. They protect Europe's most special places: relatively untouched landscapes, as well as those which have been shaped by centuries of man's interaction with the land. They offer refuge to the species and ecosystems which represent the very basis of future life. And they help to preserve the natural beauty of Europe in all its variety for us to experience and enjoy. They are our life-support system

The Federation fulfils its aims with the help of seven national and regional sections and through a large variety of activities. These include: the Wild Europe Initiative, the European Charter for Sustainable Tourism in Protected Areas, the Junior Ranger Programme and the Transboundary Parks certification scheme. Each year the organisation also awards three new Alfred Toepfer Scholarships to young conservationists and the Alfred Toepfer Medal to an individual who has shown particular commitment to Europe's protected areas. It is also responsible for the creation and promotion of the European Day of Parks each May and the largest annual conference for protected area practitioners every autumn.

EUROPARC was founded in 1973 in Basel, it moved its headquarters to Grafenau in 1986 and again to Regensburg in 2010. As of 2013 it represents 400 members in 35 countries.

For more information visit [www.europarc.org](http://www.europarc.org)

## 7. The Alfred Toepfer Foundation

The Alfred Toepfer Stiftung is a German foundation established in 1931 by the Hamburg merchant Alfred Toepfer. The foundation is committed to promoting European unification and ensuring cultural diversity and understanding between the countries of Europe.

EUROPARC Federation in cooperation with the Alfred Toepfer Foundation F.V.S. awards the **Alfred Toepfer Natural Heritage Scholarships** to young promising conservationists with practical experience in the field of conservation and in the work of protected areas.

With the financial support of 3000 EUR per scholarship, students can undertake a study visit to one or more protected areas in a European country other than their home country. This funding aims to enhance international cooperation. It promotes the advancement of quality research, innovation and the European dimension of protected area management. At the Annual EUROPARC Conference, scholarships are awarded by the Alfred-Toepfer-Foundation director and EUROPARC in a ceremony with attendees from the international EUROPARC network. I have received the award in the Award Ceremony at the EUROPARC Conference 2012 in Belgium (October 22-25 2012). The award was given personally by Mr. Ansgar Wimmer from the Toepfer foundation.

## 8. Target country of the study visit: Finland

The Republic of Finland, is a country situated in the Fennoscandian region of Northern Europe. It is bordered by Sweden to the west, Norway to the north and Russia to the east, while Estonia lies to the south across the Gulf of Finland.

An estimated 5.4 million people live in Finland, with the majority concentrated in its southern regions. Finland is the eighth largest country in Europe and the most sparsely populated country in the European Union. About one million residents live in the Greater Helsinki area (consisting of Helsinki, Espoo, Kauniainen and Vantaa) and a third of the country's GDP is produced there.

From the 12th until the start of the 19th century, Finland was a part of Sweden. It then became an autonomous Grand Duchy within the Russian Empire until the Russian Revolution. This prompted the Finnish Declaration of Independence, which was followed by a civil war where the pro-Bolshevik "Reds" were defeated by the pro-conservative "Whites" with support from the German Empire. After a brief attempt to establish a monarchy in the country, Finland became a republic. Finland's experience of World War II involved three separate conflicts: the Winter War (1939–1940) and Continuation War (1941–1944) against the Soviet Union; and the Lapland War (1944–1945) against Nazi Germany. Following the end of the war, Finland joined the United Nations in 1955, the Organisation for Economic Co-operation and Development (OECD) in 1969, the European Union in 1995 and the eurozone at its inception in 1999. During this time, it built an extensive Nordic-style welfare state.



(Source: [http://europa.eu/abc/maps/members/finland\\_en.htm](http://europa.eu/abc/maps/members/finland_en.htm))

Finland was a relative latecomer to industrialisation, remaining a largely agrarian country until the 1950s. Thereafter, economic development was rapid, today Finland is one of the world's wealthiest nations. According to Newsweek magazine Finland is "the best country in the world" ☺



People enjoy the sunshine on Sunday in Helsinki  
(Photo: David Bogyo, 2013)

## 9. Overview of the study visit

19.05.2013

Arrival to Helsinki (Vantaa Airport) from Debrecen via Budapest (Ferihegy/Liszt Ferenc Airport). Travel to Helsinki city center, walk in the city center to Hietaranta beach and the Rajasaari and Seurasaari islands.

Accommodation in Helsinki

20.05.2013

Meeting in Metsähallitus center, Helsinki-Vaanta – overall presentation by Tiira Mikko

Visit of Nuksio NP and Lahti Nature Center.

Accommodation in Helsinki

21.05.2013

Visit of the Viikki—Vanhankaupunginlahti bay, Laajalahti bay and Medvastö lake

Travel to Helsinki city center and travel by IC train to Turku.

Accommodation in Turku

22.05.2013

Meeting in Metsähallitus center, Turku – general presentation of wetlands and wetland projects by Mikael Nordström. Visit of Mietostenlahti bay.

Accommodation in Turku

23.05.2013

Visit of Puurijärvi- Isosuo NP (lake and raised bog ecosystem)

Accommodation in Turku

24.05.2013

Travel to Korpoström from Turku by car. Daytrip by boat to the Archipelago NP for white-tailed eagle nest monitoring and bird ringing– general presentation of the Archipelago NP (SW part) by Jouko Högmander

Accommodation at Berghamn

25.05.2013

Daytrip by boat to the Archipelago NP for white-tailed eagle nest monitoring and bird ringing– general presentation of the Archipelago NP (Central part) by Jouko Högmander

Accommodation at Berghamn

26.05.2013

Boat trip in the Archipelago NP for white-tailed eagle nest searching– general presentation of the Archipelago NP (Northern part) by Jouko Högmander. Travel to Turku by car. Visit into the city center of Turku.

Accommodation in Turku.

27.05.2013

Meeting in the Metsähallitus center, Turku with Johanna Ruusunen. Trip to the Marttilan Korven Eräreitistö protected area for visiting bog restorations and a raised bog. At the evening visit of the Ruissalo island near Turku.

Accommodation in Turku.

28.05.2013

Trip to the Kurjenrahka NP and Vaskijärvi Strict Nature Reserve areas for visiting bog restorations and raised bog/aapa mire ecosystems.

Accommodation in Turku.

29.05.2013

Drive from Turku to Korpoström. Meeting in the Metsähallitus center, Korpoström with Trygve Löfroth, general presentation of the MH habitat restoration works in the Archipelago NP. Visit of Böskar and Stora Hästö islands and nature education trails..

Accommodation in Turku.

30.05.2013

Visit of Ruissalo island. Travel from Turku to Helsinki by train. Visiting the green roofs of Viiki-Helsinki. Overall presentation by Ferenc Viliscs (University of Helsinki) about urban ecology in Helsinki.

Accommodation in Helsinki.

31.05.2013

Departure from Helsinki (Vantaa Airport) to Debrecen via Budapest (Ferihegy/Liszt Ferenc Airport) End of the study visit.



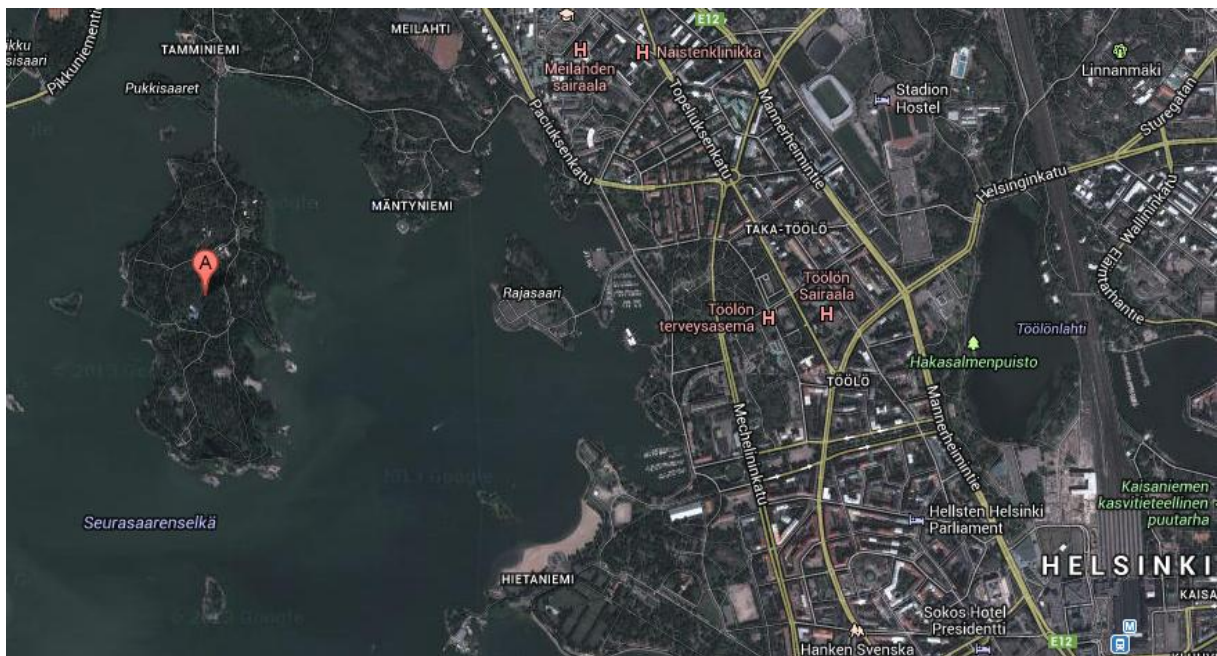
Nuuksio NP – Haukkalampi Nature Information Hut  
(Photo: David Bogyo 2013)



## 10. Detailed study report

19.05.2013

I arrived to Helsinki (Vantaa Airport) from Debrecen via Budapest (Ferihegy/Liszt Ferenc Airport) by Finnair. At the afternoon I walked to the Hietaranta beach to take a look on the Western bays of Helsinki with sandy sea beaches and small islands with interesting nature in spite of rural location. In the Seurasaari island you can find an Open-Air Museum. Seurasaari Open-Air Museum was founded in 1909. All the different provinces of Finland are represented in the well preserved old buildings and they give an overall view of Finnish countryside life from the 18th to the 20th century. At present, there are 87 separate buildings at Seurasaari Museum.



Seurasaari island (red dot A) on the left, Helsinki city on the left

(Source: maps.google.com)

Around Seurasaari on smaller island you can see lot of waterbirds nesting and moving around. The Natura 2000 site „Laajalahden lintuvesi” SPA and SCI is very close to these areas (see later) – ideal place for observing migratory birds in season. Bird species you can see here in May: ostreycatchers (*Haematopus ostralegus*), gulls (*Larus* sp.), grebes (*Podiceps* sp.) terns (*Sterna* sp.), barnacle geese (*Branta leucopsis*), swans (*Cygnus* sp.) etc. On the island you can see coniferous and deciduous forest types in almost natural conditions.



Landscape of the seashore of Helsinki  
(Photo: David Bogyo 2013)



Information table about the nature values of Seurasaari (here the alder forests)  
(Photo: David Bogyo 2013)





Oystercatchers at Seurasaari  
(Photo: David Bogyo 2013)

20.05.2013

On this Monday I was travelling to Helsinki-Vaanta to the Metsähallitus center. Tiira Mikko held me an overall presentation about the organisation and activities of the Metsähallitus and about (wetland) habitat restoration projects. After this we were driving to the Nuksio National park NW from Helsinki. This National Park was established in 1994 and spreads over an area of forests and lakes.



Presentation of Tiira Mikko in Helsinki-Vaanta  
(Photo: David Bogyo 2013)

The NP area is 45km<sup>2</sup> and it is a Natura 2000 site as well. The landscape was formed by the Ice Age and it consists from rocky hills and lot of small lakes (up to 50!). The Siberian Flying Squirrel (*Pteromys volans*) is the emblem of the national park due to its density of population. The national park comprises the westernmost part of the so-called Nuuksio lake highlands. Dozens of endangered or near threatened species of animals, plants and fungi are known to live in the area; for instance the Siberian Flying Squirrel, the European Nightjar and the Woodlark.



Sign of the Nuuksio NP  
(Photo: David Bogyo 2013)

We have visited the brand new Lahti Nature Center in the heart of the National Park. I could have a nice short look in to the nature education and tourist-management efforts of the Metsähallitus. Haltia is a new tourist destination in the Helsinki Metropolitan area, which is expected to attract 150,000–200,000 visitors a year. The latest technology and the contents that evoke emotions allow the Centre's exhibitions to showcase magnificent landscapes and the wonders of nature. In the main exhibitions, the photographs and videos of Finland's foremost nature photographers take visitors through Finnish landscapes as well as underwater in all seasons. The 18-metre panorama wall of the main exhibition practically immerses the visitor in Finnish scenery. Just after my visit this center was officially opened for the public as well. For more information visit [www.haltia.com](http://www.haltia.com).





Haltia Natuer Center under construction (left) and from outside (right)  
(Photo: David Bogyo 2013)

At the afternoon we made a ca. 10km walk on the marked trails of the NP to take a look on the most typical ecosystems here. We crossed lakes, small bogs and pine/spruce forests with the opportunity to take a look on a new trail partly built by prisoners and volunteers. I also noticed the special devices counting the numbers of visitors here.



Wooden trail along a lakeshore in Nuuksio (Photo: David Bogyo 2013)



On the lakes you can see gull nesting colonies, arctic divers (*Gavia arctica*), whooper swans (*Cygnus cygnus*) and barnacle geese (*Branta leucopsis*).



Lake with gull nesting „islands” in Nuuksio NP

Photo: David Bogyo 2013

21.05.2013

It was Tuesday, I visited the Viikki—Vanhankaupunginlahti bay with Tiira Mikko, later we went to the Laajalahti bay and Medvastö lake. Vanhankaupunginlahti bay (= Old Town Bay) and the adjacent Viikki meadow area are located in the geographical centre of Helsinki, which gives this area quite a unique status. River Vantaa flows to Vanhankaupunginlahti bay mixing fresh water to the brackish water environment of the Baltic Sea. The salinity varies from almost sweet to almost brackish, and because of this, both brackish water and fresh water species inhabit the bay. The most abundant habitat in Vanhankaupunginlahti bay is wetland dominated by reed, yet the Vanhankaupunginlahti bay -Viikki area on the whole is very diverse in habitats. It is a mosaic of forests, alder marshes, fields and meadows. Accordingly, plant and animal life in the area is abundant, which makes Vanhankaupunginlahti bay a place of great interest for both researches and nature enthusiasts. A variety of birds nest in the Vanhankaupunginlahti bay area and vast flocks of geese, waterfowl and wading birds stop at the bay to feed and rest during their annual migration. Viikki is also part of the EU Natura 2000 network, Natura 2000 habitat types:

- (1130) Estuaries

- (7140) Transition mires and quaking bogs
- (6430) Hyrophilous tall herb fringe communities of plains and the montane to alpine levels
- (1630) Boreal Baltic coastal meadows
- (9080) Fennoscandian deciduous swamp woods

European Union LIFE financing has been available for its various protection measures. The name of the LIFE project between 2003 and 2007 was: Management of wetlands along the Gulf of Finland migratory flyway. This Wetland Life project involved habitat restoration work in 12 bird wetland sites, all of which form part of the Natura 2000 network and lie along the Gulf of Finland migratory flyway. The project aims to improve the significance of these sites as staging areas for birds on migration, and to improve the habitat prospects for wetland species listed in the Bird Directive and the Habitats Directive. During the project period (2003-2007) overgrown shore meadows and open waters have been actively cleared, and steps have been taken to reduce the numbers of small predatory mammals. Facilities for the recreational use of the wetlands have been improved by constructing viewing towers, duckboard trails, notice boards and nature trails. We have seen the project efforts and stands of habitats 6 years after the project. Grazing and clearing gives a more mosaic landscape structure and diversity for migrating birds. We have seen swans, gulls, ducks and some shorebirds as well.



Look from the North to the Vanhankaupunginlahti bay seashore  
(Photo: David Bogyo 2013)



Various habitats in the Vanhankaupunginlahti bay seashore  
(Photo: David Bogyo 2013)



Birdwatching the Vanhankaupunginlahti bay seashore  
(Photo: David Bogyo 2013)





EU-LIFE Project information sign in the Vanhankaupunginlahti bay  
(Photo: David Bogyo 2013)

After Vanhankaupunginlahti bay we went to the Laajalahti bay, which is part of Helsinki (namely Espoo). This site is similar to the first bay and was also part of the same EU Life Project, just located more to the west coast of the metropolis. Other similarity is that both sites are very close to the city but on the other hand they are in a really good natural condition. We visited 3 birdwatching towers and took a walk around the whole bay. Ecotourism was really busy on both sites. during our day we met tens of birdwatching and hiking groups around these bays using the new facilities.



Laajalahti bay (Photo: David Bogyo 2013)



Grased site sin the Laajalahti bay  
(Photo: David Bogyo 2013)



Flock of barnacle geese (*Branta leucopsis*)  
(Photo: David Bogyo 2013)



At the end of this day we have traveled to the Medvastö lake which is a small lake very close to a power plant but with a very living mixture of different bird colonies, like gulls, grebes (*Podiceps grisgegens* and *P. auritus*) and ducks (*Aythya ferina*, *Bucephala clangula*). This lake was also a part of the Management of wetlands along the Gulf of Finland migratory flyway LIFE Project. This site is also popular for birdwatching and bird photography, even courses were advertised in the parking lot of the site.



Medvastö lake (Photo: David Bogyo 2013)

In the afternoon I traveled to Helsinki city center and travel by IC train to Turku.  
Accommodation in Turku

22.05.2013

This morning I had a meeting in the Metsähallitus center in Turku. I took part on a general presentation of wetlands and wetland projects by Mikael Nordström (Metsähallitus). After this event we headed up to the north to visit the Mietostienlahti bay. The weather was quite acceptable until afternoon when rain came in. Mietostienlahti is a big bay of the Baltic sea, situated ca. 35 km Northwest from Turku. This bay with brackish water, reedbeds and grasslands is a Natura 2000 site, Nature Protection Area and has a big portions of state owned land. Bird watching hides and towers and information signs were erected using EU project funds. Efforts of different levels of grazing pressure were visible resulting different types of wetland habitats.



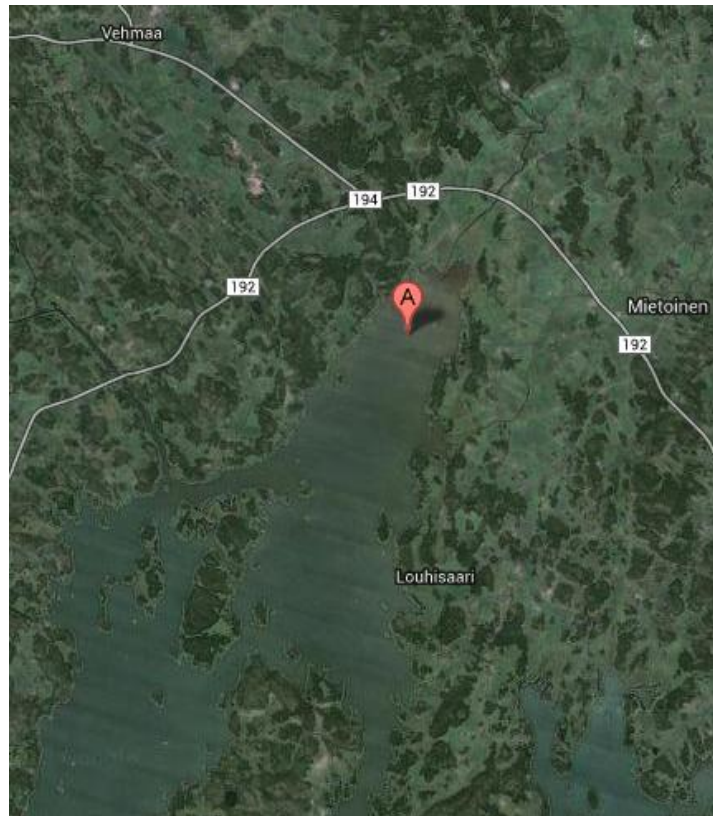
Metsähallitus „hedquarters” in Turku with Mikael Nodström  
(Photo: David Bogyo 2013)

This site has a national importance as a stopover and breeding site for ducks, geese and waders. Traditionally meadows were grazed by cattle, but mostly ended in the 1960s. This caused an over vegetation of the shores and its meadows which obviously had a dramatic negative impact on the bird diversity and numbers. Starting from the early 1990s the Mietoistenlahti Bay has been managed by cutting and mowing as well as grazing. Nowadays nearly 100 hectares is included in the management.



Information signs at Mietoistenlahti site (Photo: David Bogyo 2013)





Mietostienlahti bay (red dot A) Source: maps.google.com



View of the Mietoistenlahti site from its East coast  
(Photo: David Bogyo 2013)



Medium level grazing at Mietoistenlahti site at its East coast (Photo: David Bogyo 2013)

The management of Mietoistenlahti Bay has also been supported by the EU Life-Nature – program. The project (Wetlands Life Project 1999-2004, Management of the most valuable wetlands in SW Finland) was initiated to enhance the protection and management of the most valuable wetlands in southwest Finland. The management of Mietoistenlahti Bay way significantly improved as a result of the project and furthermore, a management plan was produced for the Natura 2000 area.



Project sites of the Wetlands Life Project 1999-2004, Management of the most valuable wetlands in SW Finland (source: [www.metsa.fi](http://www.metsa.fi))

Breeding birds include Garganey (*Anas querquedula*), Northern Shoveler (*Anas clypeata*), Great Bittern (*Botaurus stellaris*), Common Crane (*Grus grus*), Eurasian curlew (*Numenius*

*arquata*), Redshank (*Tringa totanus*) and Common Snipe (*Gallinago gallinago*). White-tailed Sea Eagle (*Haliaeetus albicilla*) and Marsh Harrier (*Circus aeruginosus*) are seen regularly. Dunlin (*Calidris alpina schinzii*), listed as critically endangered (CR), was breeding in Mietoistenlahti Bay until early 1980s, but due to changes in breeding habitat it disappeared. The site has an importance as stopover site during migration, most numerous species in spring include ducks, geese, swans, waders and raptors.

In the evening I had accomodation in Turku.

23.05.2013

This morning I met Mikael Nodström at the Metsähallitus center, Turku and we headed to the Northeast to visit the Puurijärvi- Isosuo National Park (lake and raised bog ecosystem with a river basin). Puurijärvi-Isosuo National Park is a national park in the Pirkanmaa and Satakunta regions of Finland. It was established in 1993 and covers 27 km<sup>2</sup> (10 sq mi). The area consists mainly of large swamp areas and the Puurijärvi lake. Moreover, the alluvial shores of Kokemaenjoki are on almost natural state here. The site is a Natura 2000 SPA and SCI habitat as well.

Natura 2000 habitats:

Code: 3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea

Code: 7110 Active raised bogs

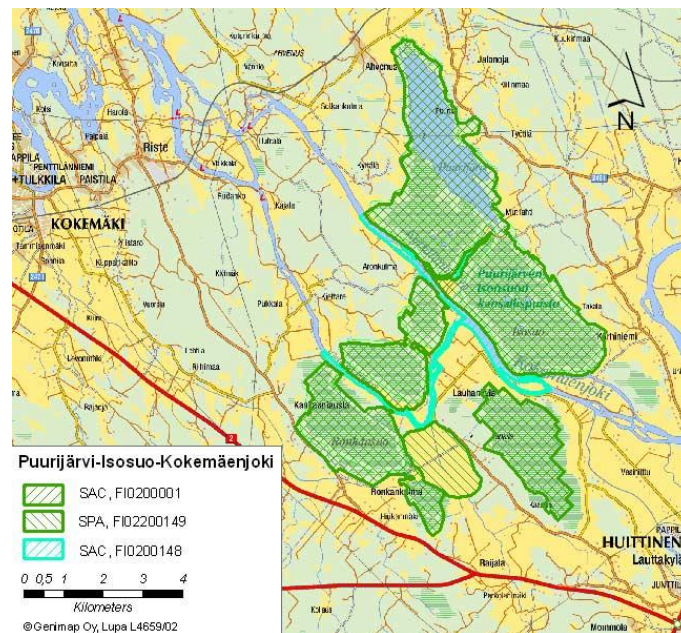
This site was a part of the Kokemaenjoki-LIFE is a project for the restoration and management of valuable natural sites along the Kokemaenjoki River (2006-2012). The project focuses on restoration, management and the planning of conservation for five areas belonging to the Natura 2000 network. The aim is to encourage the preservation of the areas' natural features and to improve their potential for recreational use.



Project sign at the Puurijärvi lake (Photo: David Bogyo 2013)



The following areas are participating in the project: the Puurijärvi-Isosuo area in Satakunta, Vanhakoski, Piriläkoski, the Preiviikinlahti Bay area and the Kokemäenjoki estuary. Puurijärvi Lake, the Kokemäenjoki estuary and Preiviikinlahti Bay are among Finland's most famous and most important bird conservation areas. (for more info visit: <http://www.ymparisto.fi/default.asp?node=21245&lan=en>)



(source: [www.ymparisto.fi](http://www.ymparisto.fi))



Project sign at the Puurijärvi lake (Photo: David Bogyo 2013)

Here we saw the project efforts mainly in the restruction od the Puurijarvi „bird-like” which was totally overgrown before the actions. After rising the water level, reed-cutting and management of the lakebed these resulted a higher natural level habitat-complex for birds. At

the time of our visit we mainly saw whooper swans (*Cygnus cygnus* 100+). In the Isosuo bog we saw an osprey (*Pandion haeliaetus*) pair and a nest as well. this bog was the first real raised bog which I have been seen in Finland.



Isosuo – an active raised bog (Photo: David Bogyo 2013)

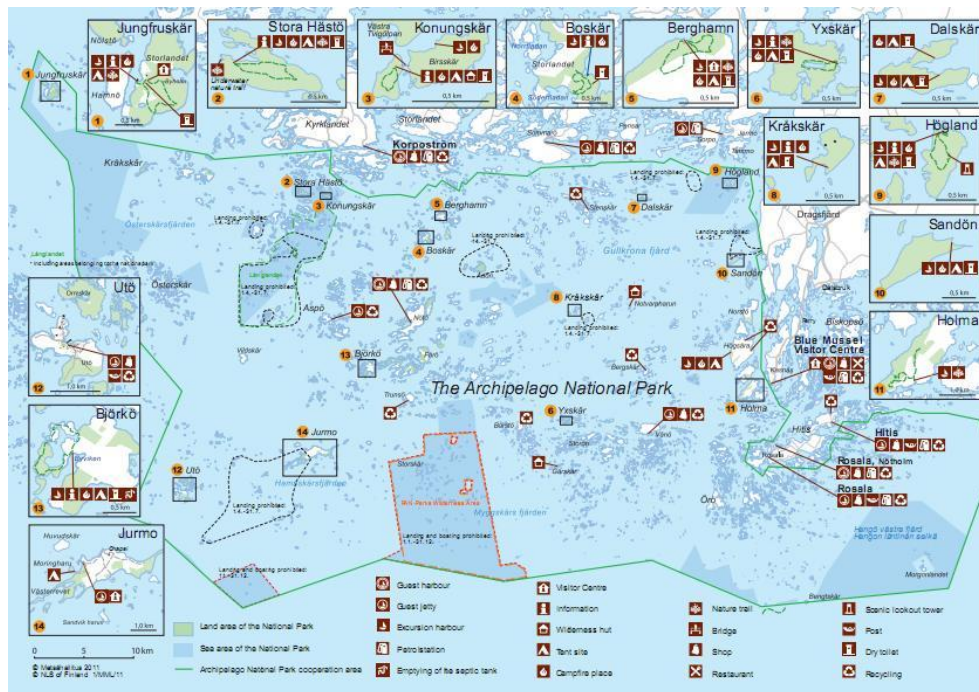
Results of visitor friendly activities (trails, trailmarks, bird observation towers etc.) and cooperations (like with the local prison as a cooperating partner) were very well visible.

Accommodation in Turku

24-26.05.2013

In this 3 days I have visited one of the most interesting and diverse National park in Finland. The Archipelago National Park was established in 1983 and covers 500 square kilometres (193 sq mi) of land areas. It is part of the UNESCO biosphere reserves and received a PAN Parks certificate in 2007. This National Park is located in South-Western Finland near Turku. The park consists of all state owned waters and lands in a large co-operation area, excluding areas of defence forces. The co-operation area covers most of the southern part of the Archipelago Sea. That is the parts of the former municipalities of Korpo, Nagu and Dragsfjärd south of their main islands. The park includes more than 2 000 islands and islets. The area is inhabited and part of the mission of the park is to encourage traditional ways of living and to preserve the culture of the area. There are information centers in Kasnäs in Kimitoön and in Korpoström in Väståboland, reachable by coach or car. There are ferry connections to the larger, inhabited, islands but most of the park can be reached only by boat. Mostly normal freedom to roam applies in the park, but the nature is fragile and special care has to be taken, especially regarding nesting birds. There are areas with special restrictions. Camping is in practice restricted to assigned areas.





Map of the Archipelago NP (Source: [www.outdoors.fi](http://www.outdoors.fi))

It is a very special place in Finland, sea islands with small surface and many habitat types. Lot of the boreal habitats/species reach their southern boundaries here as well some (Central) European habitats/species reach their northern boundaries here (even orchids!). On the islands you can find deciduous and coniferous forests, swamps, bogs, grazed marshes and grasslands and many more!



Archipelago National Park landscape (Photo: David Bogoy 2013)

I joined Jouko Högmander on his special trip for the annual White-tailed eagle ringing and nest monitoring all over the Archipelago. The White-tailed Eagle (*Haliaeetus albicilla*), also called the Sea Eagle, Erne (sometimes Ern), and White-tailed Sea-eagle — is a large bird of prey in the family Accipitridae which includes other raptors such as hawks, kites, and harriers. It is considered a close cousin of the Bald Eagle and occupies the same ecological niche, but in Eurasia. This large eagle breeds in northern Europe and northern Asia. The largest bird population in Europe is found along the coast of Norway. The bird population in 2008 stood at only 9,000–11,000 pairs. They are mostly resident, only the northern most birds such as the eastern Scandinavian and Siberian population migrating south in winter. Birds from eastern Russia rarely migrate into Alaska. The bird is in the least concern category of the IUCN Red List.



The author with a White-tailed Eagle nest on a marine sign at the Archipelago NP

(Photo: David Bogyo 2013)

This raptor had serious population problems throughout Europe in the 20th century. Finland's White-tailed Eagle population declined steeply in the late 19th century due to persecution. Their numbers were lowest in the 1920s, but then recovered. Then in the 1960s and 1970s breeding problems due to toxic pollutants drove them to the brink of extinction in Finland, with breeding rates falling as low as 4 eaglets for the whole country. Thanks to the work of conservationists providing uncontaminated food to help the eagles through the winter, their numbers have risen again, making them a symbol of successful nature conservation. This



results are very similar to Hungary and Hungarian nature conservation where the White-tailed Eagle nesting population was about 10-20 breeding pairs in the 1970s-1980s and now they reach more than 200 (for more info see [http://www.danubeparks.org/files/526\\_WTEHungarypopulationandprotection\\_HorvathZGaborikA.pdf](http://www.danubeparks.org/files/526_WTEHungarypopulationandprotection_HorvathZGaborikA.pdf)).



Information sign of the Archipelago NP on the Berghamn island  
(Photo: David Bogyo)

With a two team system (4-4 person, 2 boats) we daily checked as much known nests (islands) as possible and also some new sites where former observation about Eagles were made.



White-tailed Eagle nestlings in the Archipelago NP (Photo: David Bogyo 2013)

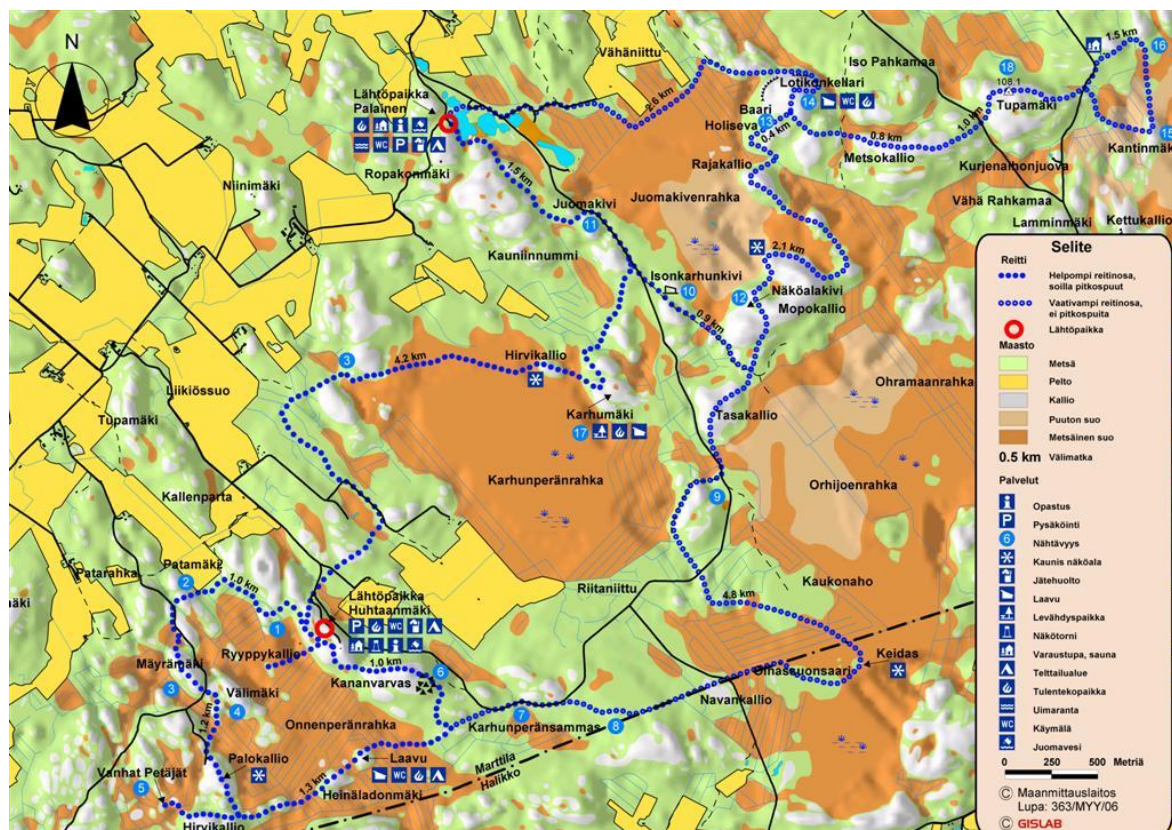


In the evenings we had accommodation in the iconic Berghamn island. Travelling around the whole Western part of the Archipelago NP I had great impressions about birdlife, habitats, botany, geology of these islands and also conservation problems and solutions. I had the opportunity to see some globally endangered species and lot of nesting and migratory birds who has a connection to the Hungarian avifauna.

At the 26th of May we travelled back from Korpoström to Turku where I had my accommodation.

27.05.2013

In the morning I had a meeting in the Metsähallitus center, Turku with Johanna Ruusunen. she was my trip leader for the following two days. This day we had a trip to the Marttilan Korven Eräreitistö protected area for visiting bog restorations and a raised bog. At the evening I have visited of the Ruissalo island near Turku (detailed description see later).



Map of the Marttilan Korven Eräreitistö

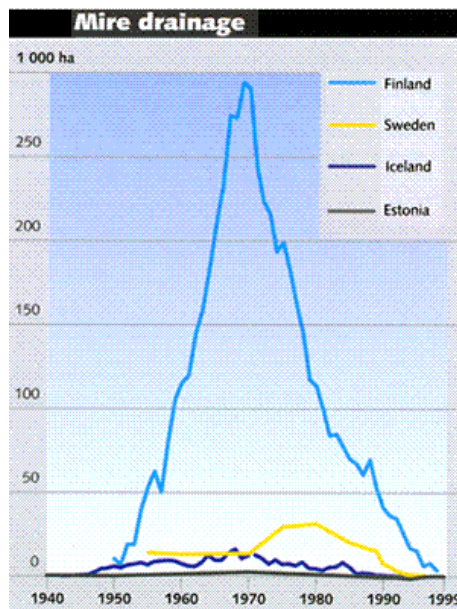
This area is located East from Turku, we reached it with car and it is also part of the Natura 2000 system and its called Karhunperänrahka Natura 2000 SCI site. The main habitat types are:

Active raised bogs (code 7110)

Western Taiga (codea 9010)

Here yo can find the nesting population of the Hazel Grouse (*Tetrastes bonasia*) and the Eurasian Eagle-Owl (*Bubo bubo*) and here they have a C population of the *Pteromys volans* also..

The site is ideal to demonstrate the habitat destruction and rehabilitation as well. Bogs and mires were dried out and changed with draingemainly for forestry in South-Western Finland dramatically. Drainige is the most important negativ effect for the Hungarian endangered wetland ecosystems (bogs, marshes, sodiac lakes etc.) as well.

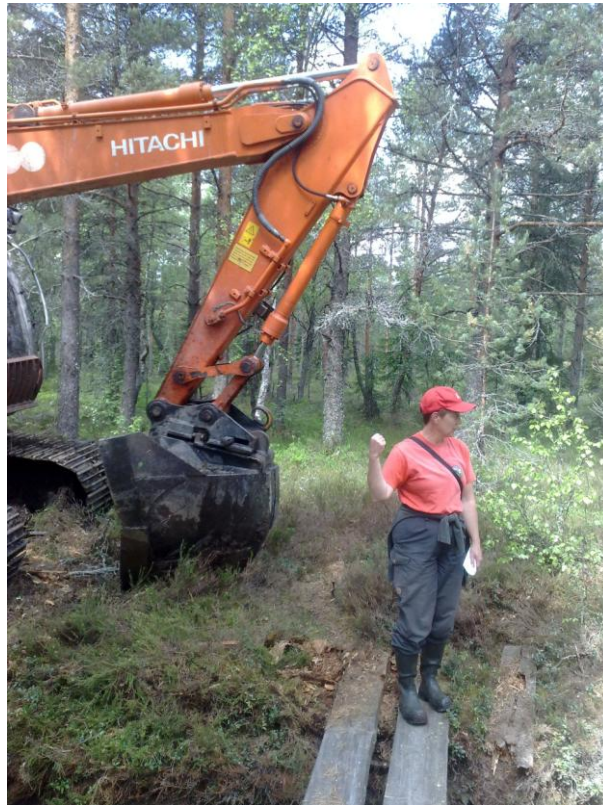


(Surce: <http://www oulu.fi/northnature/english/englanti/suot1.html>)

On the first map you can see clearly the drainage channel systems: blue lines like a comb on the orange (sign of the bog) fields. With Johanna we made a field trip trough the forests and raised bogs together with a meeting with a field worker. This field worker has a job on rehabalitation (and sometimes construnction) of channels in boggy ecosystems here. We saw how this work is done and Johanna showed me some results during the years. I walked through a nature education trail trough the South-Western part of the area. The opened landscapes of the bog center were really hot and I had the opportunity to get a better view on the botany of an active raised bog. I was also lucky to see the footprints of the Eurasian elk (*Alces alces*).

Accomodation in Turku.





Johanna Ruusunen and a caterpillar at Martilla (Photo: David Bogyo 2013)



Drainage channel in Martilla (on the left) Footprint of the Eurasian elk at Martilla (on the right) (Photo: David Bogyo 2013)



28.05.2013

Trip to the Kurjenrahka NP and Vaskijärvi Strict Nature Reserve areas for visiting bog restorations and raised bog/aapa mire ecosystems. The Vaskijärvi Strict Nature Reserve Area is ca. 15 sq.km. Established in 1956 (!) and the area is managed by Metsähallitus Vaskijärvi Strict Nature Reserve with its surroundings is one of the largest areas in Southwestern Finland which still are wilderness-like. The Strict Nature Reserve lies in almost unbreakable peace, you can just hear Cranes (*Grus grus*) shouting and Dragonflies (*Odonata*) buzzing. If you stop on the duckboards, you may notice that you are being observed. The Moose (*Alces alces*) on the edge of the forest wonders what is this strange creature walking in the landscape. Vaskijärvi Strict Nature Reserve is located on the flat watershed region of Southern Finland. There are a couple of lakes with pine bog shores, but most of the nature reserve's area is made up of mires. Vaskijärvi Strict Nature Reserve is the most important area in conserving raised bogs in Southwestern Finland. In addition to raised bogs, there are also northern features, such as aapa mires. In the middle and on the edges of the mires, there are forested islands, which have never been logged. In addition to coniferous trees and the Birch (*Betula*) there are Littleleaf Lindens (*Tilia cordata*) and Aspens (*Populus tremula*) growing on the islands. The bird species of the area include the Common Crane (*Grus grus*), the Osprey (*Pandion haliaetus*), the Black Grouse (*Tetrao tetrix*) and the Willow Grouse (*Lagopus lagopus*). In Vaskijärvi area also live mammals, such as the Common Otter (*Lutra lutra*) and the Siberian Flying Squirrel (*Pteromys volans*). Also the Moose (*Alces alces*) population is strong. The abundance of insect species in the area is due to the old-growth forests. The area is also part of the Natura 2000 framework. Habitats: 7110 Active raised bogs, 3160 Natural dystrophic lakes and ponds, 9010 Western Taiga, 8220 Siliceous rocky slopes with chasmophytic vegetation.

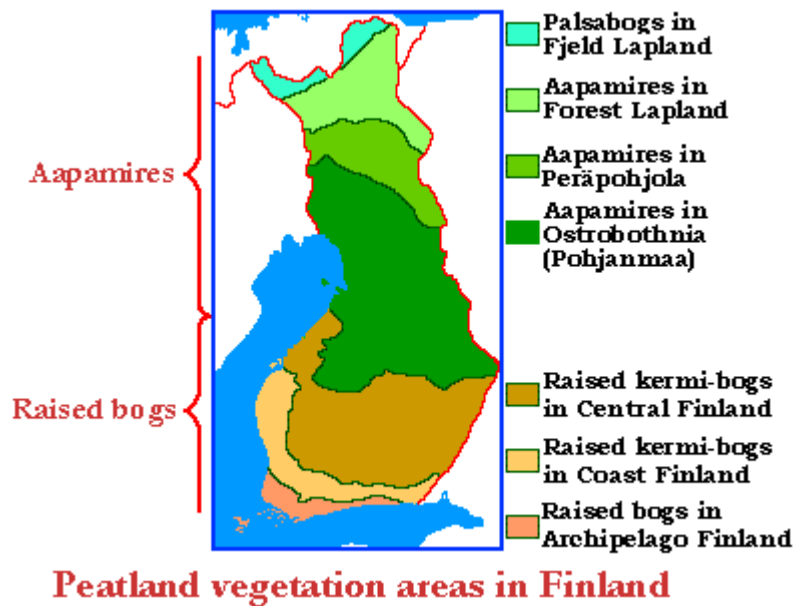


(Source: [www.outdoors.fi](http://www.outdoors.fi))

Vaskijärvi Strict Nature Reserve is part of the Kurjenrahka National Park which is the largest (29 sq.km) and most diverse protected mire area in the Southwest Finland (Established in 1998). In addition to the mires, the park includes the old-growth forest area of Pukkipalo and a part of Lake Savojärvi. In Kurjenrahka National Park, the mires which are in their natural state and the old-growth forests can develop undisturbed. Other areas, which have been used for commercial forestry, will also be restored back to their natural state.

We have visited mainly the Vaskijärvi Strict Nature Reserve taking a trail through the whole area. We were able to see forests, islands, lakes and active raised bogs together. One of the

most important things was to see the aapa mire type which normally occurs more to the North in Finland and clearly differs from the first type which is frequent in SW-Finland.



(Source: <http://www oulu.fi/northnature/english/englanti/suot1.html>)

We saw nesting gulls, mallards, flycatchers and cranes (*Grus grus*) as well. We observed a rare breeding species here: Montague's Harrier (*Circus pygargus*). We were also lucky to see a flying Black Grouse (*Tetrao tetrix*) over our car during the journey. In the bog and in the mire Dragonflies and Butterflies were very active.



*Lycaenidae* sp. on *Andromeda polifolia* flower Vaskijärvi Strict Nature Reserve  
(Photo: David Bogyo 2013)

I had a good impression on bog/mire botany because this was in the most natural condition in my whole trip. Human disturbance is much lower than in this area then the day before. I was able to see typical characteristic species of raised bogs and aapa mires such as: *Betula nana*, *Populus tremula*, *Calluna vulgaris*, *Ledum palustra*, *Vaccinium oxycoccos*, *Empetrum nigrum*, *Vaccinium myrtillus*, *Andromeda polifolia*, *Eriophorum vaginatum*, *Rubus chamaemorus*, *Drosera rotundifolia* and many more, like *Sphagnum* species.



Aapa mire habitat type in the Vaskijärvi Strict Nature Reserve  
(Photo: David Bogyo 2013)

Accommodation in Turku.

29.05.2013

This morning I was driving from Turku to Korpoström. Meeting in the Metsähallitus center, Korpoström with Trygve Löfroth. I have heard a general presentation of the MH habitat restoration works in the Archipelago NP (description see above!). We have visited Böskar and Stora Hästö and Brännsäar islands and nature education trails. I was able to observe the results of the 1997-1999 Archipelago Life Project (Restoration of grasslands and pastures in the Southwestern Archipelago National Park and Biosphere Reserve). The main problem of the islands is that the traditional land use (grazing, hay cutting, fishing) is disappeared such as the inhabitants. Many specialist species (both plants and animals) survive only in opened areas such as grasslands or forest-edges. These places disappeared during the last decade because of the end of traditional land using. We also visited some facilities made for visitors such as an underwater (!) education trail. Here I also learned that the effect of voluntary work is very high during the landscape scale rehabilitation projects. Volunteers come from all over Finland or even Europe to help in these works.





Underwater education trail at Störa Hästö island  
(Photo by David Bogyo 2013)



Collection of fallen leaves to result better grass production at Boskär island  
(Photo by David Bogyo 2013)





Wet meadow grazed by cattle in the Archipelago NP  
(Photo by David Bogyo 2013)



Nature education trail in the Archipelago NP – Trygve Lofröth and a volunteer from Portugal  
(Photo by David Bogyo 2013)

Accommodation in Turku.

30.05.2013

Visit of Ruissalo island. Ruissalo (Finnish; Runsula in Swedish) is an island in the Archipelago Sea and a district of the city of Turku, Finland. The island is located to the south-west of the city, between Hirvensalo and Pansio in the mainland. It is rather sparsely populated, having a population of only 126 (as of 2004), with an annual growth rate of 3.97%. One of the largest old oak forests in Finland is situated in the island and many parts of it are included in nature conservation programs. In the westernmost part of the island there is a spa and a camping area.



Life Project sign at Ruissalo island – Turku

(Photo: David Bogoyo 2013)

The Botanical garden of University of Turku is situated in the middle of the island. Ruissalo island is a Natura 2000 SPA and SCI area as well. Main habitat types are (with code): 9020 Fennoscandian hemiboreal natural old broad-leaved deciduous forests (*Quercus*, *Tilia*, *Acer*, *Fraxinus* or *Ulmus*) rich in epiphytes, 9010 Western Taiga, 9190 Old acidophilous oak woods with *Quercus robur* on sandy plains, 8220 Siliceous rocky slopes with chasmophytic vegetation, 9050 Fennoscandian herb-rich forests with *Picea abies*, 9030 Natural forests of primary succession stages of landupheaval coast. The island's most famous natural value is a very good natural condition of the old oak forest (*Quercus robur*) which is one of the northernmost occurrences of this species and habitat! even if it's so close to this city. Ruissalo was also part of a LIFE project: Management of Urban Nature 2000 Areas in SW Finland (2002-2006). All five Natura 2000 areas included in this project (Ruissalo, Rauvolanlahti, Kaarinan metsät, Kuusistonlahti and Viurilanlahti) are located in the near vicinity of cities Turku and Salo in SW Finland. Both regions are among those few regions in Finland where the population is still increasing mainly due to the incoming migration. This causes a special human pressure, direct and indirect to those Natura 2000 areas. On the other hand, these areas are also located



in coastal environment, where landrising, eutrofication and changes in traditional land use is changing the nature rapidly.



Old oak (*Quercus robur*) at Ruissalo island, Turku (Photo: David Bogyo 2013)

In the afternoon I traveled from Turku to Helsinki by train. I have visited the green roofs of Viiki-Helsinki. Overall presentation by Ferenc Viliscs (University of Helsinki) about urban ecology in Helsinki. I had the opportunity to take a closer look on the urban ecology researches and conservation issues in Finland.



Green roofs in Helsinki (Viiki) (Photo: Niina-Ala Fossi 2013)

Accommodation in Helsinki.

31.05.2013

Departure from Helsinki (Vantaa Airport) to Debrecen via Budapest (Ferihegy/Liszt Ferenc Airport). This morning I suddenly left Finland and headed home. This was the end of my study visit.

## 11.Summary

I travelled to Finland thanks to the great help of the Alfred Toepfer foundation in May 2013. The purpose of the study visit was to learn about the biodiversity and conservation of protected areas managed by the Finnish national organisation Mettsähälitus. I visited sites which were project sites of the LIFE Nature programme of the European Commission. I learned a lot about wetland conservation, rehabilitation and reconstruction. My guests also shared their experiences of the management of visitors and how to share the results of the protection work with the public. I found many common points between Hungarian and Finnish nature protection problems and solutions mainly in the topic of migrating birds and wetland protection.



Visitor counting device in the Nuuksio NP

(Photo: David Bogyo 2013)

I also experienced the power of multi level cooperations both in projects efforts and other works, like volunteering which were also very useful in our work in Hungary. Here I would like to say how much I enjoyed the time spent in Finland's nature with the hospitality of my new friends. THANK YOU!