

Study visit 2012

Report to the Alfred Toepfer Nature Heritage Scholarship

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Main theme: Biodiversity

Project title: Role of Rangers in Natura 2000 site management

1. Rationale

Management of Natura 2000 sites is a hot topic all over the European Union, since the implementation and enforcement of the two nature directives in the Member States is more and more controlled and criticized by the European Commission (EC), supported by many European Court decisions, as well as by NGO movements. Following the more or less successful designation of Special Areas of Conservation (SAC) under the Habitats Directive, the Commission puts more and more emphasis on the management issues of Natura 2000 sites including the conservation priorities and measures applied, as well as site management plan preparations and their implementation in the practice. Protected area managers and park ranger services have a lot of experience in the field of *in situ* – meaning not theoretic - nature management in order to ensure the favourable conservation status of nationally protected species and habitats, but also of those of community importance, listed in the different annexes of the two nature directives. A more effective use of this extended knowledge and experience can be a key tool in the process of ensuring the appropriate protection of the rich and wonderful biodiversity of the old continent.

Rangers - working for most of their time in the field, meeting farmers, hunters, foresters, and other stakeholders day to day - have an extremely important role not only in the management of nationally protected areas, but also in that of Natura 2000 sites. In many countries they are also involved in nature education activities, as well as in the implementation of LIFE, and biodiversity protection oriented Structural Fund projects. This is the case in my home country, Hungary, where the management of Natura 2000 sites has been placed on the shoulders of the regional nature conservation management organizations, the national park directorates. As the deputy chief ranger of the Kiskunság National Park Directorate I am involved in many fields of Natura 2000 site management, including

- inventory and biodiversity monitoring activities of species of community importance,
- implementation of the LIFE project (LIFE06 NAT/H/000104) aiming at the protection of a Pannonian endemic plant species (*Dianthus diutinus*),
- nature education activities for local school children regarding Natura 2000 issues,
- communication with land users and other stakeholders working and living in Natura 2000 sites and protected areas,
- in field control of the use of Natura 2000 compensation payments together with experts the paying agency.

The aim of my planned site visits was twofold. On one hand I would like to have more experience and a wider view on how rangers are involved in the different aspects of Natura 2000 site management, but also would like to share my experiences with my colleagues abroad via presentations about the Hungarian system on organized meetings, from which they might also benefit during their everyday work. As part of this idea I would also like to contribute as much as I can to the development of the ranger concept in Lithuania, where there is no ranger service exists under the national and regional park directorates, but they are in the process of having established one.

To sum it up I would like to learn, but at the same time also to teach during my site visits.

Below I will report how my plans were realized, but before that, let me present the Hungarian Ranger Service by a short summary about the ranger service of the Kiskunság National Park Directorate.



Hungarian Rangers



Hungarian Rangers

2. Park Ranger Service in the Kiskunság

In Hungary the state park ranger service which was founded to patrol the protected natural areas and the nature conservation values has about forty years past.

Park ranger

Today in Hungary the *park ranger* is a collective term, involving the state park rangers with different duties and the park rangers of the self-government. The state park rangers are the members of the Park Ranger Service which operates in the national park directorates. Their task is to protect the natural and protected natural areas and values and to preserve the archaeology place of occurrence and finds and prevent their damage. The work of park rangers can be helped by the people as civil park ranger in volunteer or institutionally organised form. The self-governments have possibilities to preserve the protected nature conservation areas-which have local importance-by the self-government's park ranger.

The *state park ranger* carries out a complex professional, nature conservation management tusk. They have the right for appropriate action which is compulsory for them at the same time. They are official persons, equipped with self protection and other technical devices and they have greater defence in the criminal law.

Park ranger service in the Kiskunság

The Park Ranger Service of the Kiskunság National Park carries out its task on about one million hectare field of action almost covering the whole Bács-Kiskun and Csongrád county and a smaller part of Pest county. Beyond its most important task to protect the 112 thousand hectare protected nature conservation areas and protected nature conservation areas with national importance the Park Ranger Service is responsible for the protection of 81 thousand hectare Natura 2000 areas and the preservation and damage prevention of several protected and strictly protected species. In addition to the Service is responsible for the protection and damage prevention of the natural areas (forests, grass lands, reeds, natural waters), natural values (plant and animal species in the wild which are not protected, geological values) and for the approximately 6500 archeological place of occurrence which are registered in the Directorate's field of action.

The rights and duties of a park ranger

The supervision of prescription keeping, which were brought to protect the nature and archeological heritages.

This means the supervision of the keeping of all law and official prescriptions (resolutions) which are concerning to the protected and not protected natural values and areas and the archeological place of occurrences and finds.

Additional rights and duties of the ranger

-For the arresting, carrying out an identity check and checking the package, clothing, vehicle of the person who hurts the protection of the interest of nature and archeological heritage or endanger or damage the natural value, area, archeological place of occurrence or make a wrongful act or can be strongly suspected of doing that.

-For retaining the natural values or archeological find which were obtained illegally and the instruments what were used during the damage or endangering action.

-For detaining, retaining or taking to the police station the person who was caught in the act which is connected with the protection of nature and archaeology heritage or strongly suspected to do that.

-For using devices to enforce the law and stop the resistance against the legal action (physical force, handcuff, gas spray, dog).

-When an infringement of the law happens connected with the protection of nature or archeological heritage the ranger has the right to initiate a procedure concerning petty offences or criminal procedure and administrative procedure.

-In some cases which are determined in the law the ranger has the right to fine on the spot.

During their professional task the member of park ranger service carries out habitat and species protection, take part in the data and information collection which establish the nature conservation management. They have a role in the environmental education and attitude forming.

The recognition and identification of a park ranger

The park ranger can be recognised and identified by the uniform which symbolise her/his authority for legal action and defence in the criminal law. The uniform marks of the park rangers: the arm badge, the marking which shows that the person is in the staff, the function mark and the badge on the cap. The official identity card justifies the right for legal action. The official badge which has serial number makes possible the identification of the ranger.

3. Sites visited

a.) IRELAND: Wicklow Mountains NP, Ireland

Date: July 28- Augustus 5. 2012.

The plan was: They manage c 20,000ha of upland heath and bog which forms the National Park in Wicklow, and is in addition, along with an additional 10,000 ha designated as SAC and SPA. Active management includes woodland regeneration, species control, burning for species management, mapping, etc.

Contact person: Ann Fitzpatrick, Wildlife Ranger, email: ann.fitzpatrick@environ.ie

The work of rangers in Ireland is the most similar to the work of Hungarian rangers, based both on my previous knowledge and on my tour. The only difference is that the magisterial powers are missing in the work of Irish rangers

Wicklow Mountains National Park

Wicklow Mountains National Park was established by the government in 1991 with an initial core area of 3,700 ha (37 square km). This core area comprised the statutory nature reserves of the Glendalough Woods and the adjacent Glenealo Valley, both of which were established in 1988. Lands were also transferred from the state's commercial timber production agency, now known as Coillte Teoranta. These plots of land amounted to more than 2,900 ha (29 square km). They were no longer required for planting purposes but were of high conservation value. Lands around the Liffey Head Bog complex were also purchased from the Powerscourt Estate at that time.



Wicklow Mountains National Park



Wicklow Mountains National Park

Since then, further lands have been transferred by Coillte Teoranta for inclusion in the Park. Purchase of land from private landowners has also continued when the land is put on the market for sale. No land has been acquired through compulsory purchase. The main areas purchased were in Ballingonneen, Kippure East, Ballinabrocky, Lough Bray, Derrybawn, Glencree and Ballinastoe. This piecemeal acquisition has resulted in a patchwork of Park lands. The boundaries of the Park as it exists at present, are based on previous land ownership patterns, rather than on an ecological unit. Currently the Park is approximately 20,000 ha (200 square km) in area but will continue to grow as new lands are acquired.

Much of the lands within the site are commonage (areas over which traditional communal land-use rights exist). These rights include grazing, turbary (turf collection) and estovers (e.g. wood collection). These rights are recognised and a liaison process with rights holders has been established to achieve the conservation objectives of the Park.

Responsibility for the Park has passed between a number of government departments over the years and currently rests with the Minister of the Arts, Heritage and the Gaeltacht, through the National Parks and Wildlife Service.

I was guided by Ann Fitzpatrick, a wildlife ranger in Wicklow Mountains National Park. We visited numerous sites and carried out the rangers skills and duties together during my stay.



Irish Rangers



with Irish Rangers

The UN has declared 2011-2012 the Year of the Bat. Bats may be mysterious and misunderstood, but the earth's only flying mammals are essential to our global environment. Discover how bats contribute to our rich biodiversity and well-being, through pollination, seed dispersal, insect control and other eco-services in rainforests, woodlands, wetlands, grasslands, deserts and cities. The rangers of Wicklow Mountains National Park were responsible for the monitoring of bats - they built a monitoring place, according to the monitoring protocol in the small river base, and used a special voice detector stimulating the voice of bats. I participated in one of the monitoring exercises during my visit.

I also had the chance to get an insight into one of Ann's other monitoring project in which she monitored the stations measuring the water supply and water runoff of a raised bog. 2012 was quite rainy in Ireland, therefore the fire starting and devastating a few years ago on the raised bog did not jeopardize the National park.

Similarly to other European national parks, many activities require special licence in Wicklow Mountains National Park, such as filming on protected areas. On one of our joint site tours we checked the compliance with the related licence – there were no issues with the compliance, the filming team was very responsive and helpful. The ranger colleague seemed to have a good routine in such inspection activities, this was clearly reflected by her firmness and how she managed the situation and how easy her requests were received and responded to by the filming group.

Contact with local communities and inhabitants is a high priority task of park rangers. Based on my experiences of our joint site visits, I can say that each ranger is very competent in the local affairs, they are familiar with the public affairs, built up and maintain good relationship with the local government, with the civil organizations and also with the economical organizations or citizens getting into contact with the protected areas. All this is very important considering the judgement of the national park.



Irish Ranger



with Irish Ranger and the Mountain Rescue Team

In the Wicklow Mountains National Park, similarly to the Kiskunság NP, the ecotourism activities and nature-protection related education are carried out by a separated department within the national park's organization. The rangers are involved in the professional group guiding. As rangers are involved in such activities in many other European countries as well, I was very interested how this works at Wicklow Mountains National Park. I got an insight by a joint program with Dublin Zoo – for one day I was able to participate the programs of Dublin Zoo's summer camp featuring knowledge about nature. The very interesting and instructive program was hosted by the 'green teachers' of Wicklow Mountains National Park.

The Wicklow Mountains National Park is a popular hiking place, the trails and visitor sites are well equipped with information boards and signs – despite of this, visitors and hikers regularly break the regulations of protected areas. The rangers frequently check the sites under their territory, they inform the irregular visitors about their faults and request them to stop their irregular activities. As rangers do not have any magisterial means, they try to convince the irregular visitors by talking, asking and explaining. In many cases the visitors just wanted to get some information or asked about things they wanted to see themselves.

b.) POLAND: Biebrza National Park, Poland

Date: Augustus 23-27. 2012.

The plan was: The NP administration manages 2 Natura 2000 sites partly outside of the national park: PLB 200006 and PLH 200008 (150 000 ha). The Polish Ranger Association expressed its interest to organize my visit. Polish rangers are involved in *in situ* nature protection and education also outside national park borders. They have recently started to draft site management plans for both N2k sites, the process of which will take at least 3 years, and park rangers are involved in it, too.

Contact person: Tadeusz Sidor, deputy director, Biebrza NP Administration

In Poland, the most important duty of rangers is the magisterial work, control of different human activities within the park area and at the related Natura 2000 sites. At the moment their activities are almost completely focused on the national park area, and most of their job is to control illegal hunting and wood cutting. Unlike most of other ranger services in Europe, Polish rangers do not have a role in the ecotourism, nature education and biodiversity monitoring activities of the national park administration. The organization, roles and responsibilities of rangers are hierarchy-based.



Biebrza National Park



Polish Rangers

There are two Natura 2000 sites in the region, for the management of which the Biebrza National Park Administration is responsible for. At the moment the draft management plan for both sites is being prepared. Park rangers are involved in this planning process, too.

The Biebrza National Park is located in Northeast Poland, in the Podlaskie Voivodship. The northeastern boundary of the park is near the Belarus border. The Narew River and its confluence with the Biebrza River form the southern boundary. The park was established in 1993, and with a total area of 59 233 ha, it is the largest of the Polish national parks. The Park includes 15 547 ha of forests, 18 182 ha of agricultural land, and 25 494 ha of wetlands - the most valuable habitats of the park - the famous Biebrza marshes. The area of 3 936 ha is under strict protection including the Czerwone Bagno or Red Bog at the Grzędy Forest District. Unique in Europe for its marshes and peatlands, as well as its highly diversified fauna, especially birds- the Park was designated as a wetland site of global significance and is under the protection of the RAMSAR Convention.

Natural environment of Biebrza Marshes was formatted as result of cooperation of natural processes and human activities. The influence of man on the environment concerned the transformation of hydrographical network as well as different kinds of land use, like agriculture, pasturage and forestry. The valuable ecosystems include not only natural areas of forests and peatlands, but also open areas of meadows which are the result of extensive agricultural use. Discontinuance of any land use forms may bring to disappearance of floristic and faunal values of these areas. In other words, most of areas within BNP require active protection. Principles and main policies of protective activities were laid down according to basic aim of BNP establishment, which is protection of peatlands and wetlands that are found as unique and disappearing in Europe, also protection of rare and vanishing plant communities and species of fauna as well as landscape amenities and biotopes important from the avifauna protection point of view.

Protection of non-forest ecosystems

Discontinuance of extensive agriculture at Biebrza Marshes and changes in water conditions in the area caused scrub and forest vegetation succession upon non-forest ecosystems of peatland in BNP – the biggest threat to the area. The consequence of succession processes is expansion of light-seed species of trees (birch, aspen), scrubs (willows) and reed onto non – forest areas of peatlands. The process of overgrowing of open marshlands causes real transformations to soil, flora and fauna, which brings to biodiversity decreasing of marshy ecosystems and disappearance of valuable biotopes. On the grounds of main provisions of Biebrza National Park Management Plan, it is indispensable to conduct nature protection for the purpose of maintenance of non – forest ecosystems, because of succession occurrence on the whole area. According to BNP Management Plan about 32 000 hectares of Park's area is scheduled for active protection. Taking into consideration the present state of knowledge, the most effective method of counteracting the succession is mowing and cutting trees and bushes out of marshy meadows, and also grazing as a supporting action. These methods of protective activities imitate the activities used in extensive agriculture, which contributed to development and maintenance of non – forest ecosystems in Biebrza Valley through hundred of years. Other forms of activities (burning, chemicals) are contradictory to principles contained in nature conservation act.

Active protection of open marshlands is very important, because it allows to:

Maintain biotopes of many rare bird species unique for Poland and Europe, nesting or feeding on open areas of sedge meadows, such as: aquatic warbler, great snipe, ruff, jack snipe.

Maintain feeding grounds for birds of prey, such as: greater spotted eagle, lesser spotted eagle, white - tailed eagle, short – toed eagle, hen harrier. Marshy meadows in

Biebrza Valley are reach of small rodents and amphibians, therefore they are very important feeding sites for birds of prey.

Resettle non – forest peatlands by waders bird species, like black – tailed godwit, redshank, ruff and jack snipe, which abandoned these sites after overgrowing with birch – willow brushwood.

Maintain big diversity of plant communities which occur on peatlands in Biebrza Valley. From the nature point of view, sedge – moss and moss communities are particularly valuable, as they include many rare plant species, which disappear in other parts of the country and Europe, such as: *Carex chordorrhiza*, *Baeothryon alpinum*, *Pedicularis sceptrum-Carolinum*, *Saxifraga hirculus* and others.

Conditions and scale of protective activities mostly depend on availability to financial support, which is indispensable to implementation of planned actions. Some protective activities are realized at present in Biebrza NP. These actions are implemented within the framework of following projects concerning the protection of non –forest ecosystems:

“Reconstruction of biotopes of valuable bird species occurring on open areas of sedge meadows in BNP” - The project was financed by EkoFundusz foundation. The implementation of the project ended in October 2002. The project included execution of protective activities on the area of about 730 hectares situated in the Podlaskie Marsh (Southern Basin in BNP). These actions included: brush and trees cutting and exportation of biomass – on the area of 400 hectares, mowing – on the area of 330 hectares. The effect on non-forest marsh ecosystems of protective activities was evaluated within the framework of nature monitoring. The monitoring research regarded changes in bird populations and plant communities.

“The protection of open marshlands in the area of Southern Basin in BNP” - The project was financed by the National Environmental Found and Water Management. The implementation of the project started in 2001 and will end in 2004. The project included protective activities implemented in the area of Ławki Marsh (Southern Basin in BNP). These actions include: 2001 – brush and trees cutting, mowing and exportation of biomass on the area of 90 hectares; 08.2002-03.2003 – bush and trees cutting, mowing and exportation of biomass on the area of about 680 hectares; 08.2003-03.2004 – mowing and exportation of biomass on the area of about 700 hectares.

Technical possibilities of carrying out the protective activities may be various. Taking into consideration the scale of needs – necessity to execute protective activities on thousand of hectares of Biebrza Marshes - the most effective method is mechanical mowing of marshy meadows using special wetland cutter. These machines must be constructed taking into consideration specific character of wetlands in BNP – especially very weak carrying capacity of the soil and also difficult availability of peatlands, which is caused by big swamping of this area and specific structure of plant communities (occurrence of tussocks).

In the beginning of September 2002 Biebrza National Park purchased a wetland cutter for mowing marsh meadows and sedge communities. It was financed with support of the National Environmental Found and Water Management. The machine was produced by a Swedish company. It can be used for mowing as well as for exportation of cut biomass and it's operation is very simple.

Water protection

The marshy ecosystems were formatted as a result of stable ground water inundation or every year spring flooding. That is why building of canals and drainage ditch network caused drastic changes in water supply conditions and successively this brought peat-forming processes to a stop and degradation of wetland ecosystems. These disadvantageous changes increase, especially in the area of big canals. Therefore one of the biggest problems concerning the nature protection in Biebrza Valley is reconstruction of water conditions, which is extraordinarily important to protection of marshy soils and natural environment in this area. From the water protection point of view in Biebrza Valley the most important is reconstruction of hydrographical network on partly drained peatlands in the Middle Basin of Biebrza Valley. Within the period 1994-1997 eight stone-fascine weirs were built on the Woznawiejski Canal. These constructions limited lowering of the water level on the territory of around 2500 hectares in the area called "Trójkał", especially during summer droughts. In 2000 there was realized a project entitled "Building of small damming structures on drainage ditches and canals in BNP". This undertaking comprised construction of six wooden weirs and two stone-fascine wires on ditches and canals of the Middle Basin, which apart from the main canals, considerably influence decreasing water resources within the Park's area. The effect of this investment concerns the stoppage of spring thaw flow and increasing the groundwater level on the territory of around 2 500 hectares in the area of the forests called "Brzeziny Ciszewskie" and "Brzeziny Kapickie" and to the south of reserve called "Czerwone Bagno". The most significant changes in the natural environment of the Middle Basin of Biebrza Valley were caused by rebuilding of hydrographical network of lower Jęgrznia and Ełk rivers catchments. Therefore it is necessary to protect the peatlands in this area. The most important are following protective activities: - building damming structures on the Woznawiejski Canal (dam, six stone-fascine weirs) - modernization of the 10 kilometers length lower Jęgrznia river - hydrotechnical system reconstruction in the area called "Modzelkówka" - revitalization of 37 kilometers length part of Ełk river-bed (among other things – reconstruction of 12 kilometers length part of overgrown "dead" Ełk river-bed) - building damming structures on the Rudzki Canal - plant consolidation of the Rudzki Canal. Above-mentioned elements of water conditions reconstruction are determined by the necessity of adaptation the protective activities to range and forms of agricultural use of this area. According to the strategy of water resources protection in Biebrza NP very important is also building small stone-fascine weirs on old drainage ditches in the area of Ławki Marsh and "Brzeziny Ciszewskie" Forest. The main objective of these actions is to stop the spring flow of floodwater in the Lower and Middle Basin of Biebrza Valley as well as to increase water retention on the wetland area of around 2500 hectares.

Fauna protection

Biebrza Marshes are one of the largest, best preserved slightly transformed by the human lowland bogs in the Middle Europe. A unique value of this area concerns, among other, animal populations occurring on vast wetlands. Disappearance of these biotopes in the European scale seriously threatens with extinction many species occurring in Biebrza Valley. Faunal protection in Biebrza National Park is realized for the purposes of: - biodiversity and its favorable processes protection, - provision of continuity of all native animal species, - provision of correct animal existence conditions through protection, reconstruction and management of biotopes, - maintenance of rare on regional and global scale animal populations and provision of conditions to increase numerical force of rare and endangered species, - protection of wetlands and valuable vertebrates and invertebrates species occurring on these biotopes, - inadmission of introduction and expansion of alien species, - reconstruction of numerical force and structure of specific for particular biotopes animal populations, which as a result of environmental changes don't undergo natural control mechanisms – such as big mammals, insect species causing gradation, - creating the proper conditions to using the faunal resources for scientific and educational needs.

In the spring 2003 a new Animal Rehabilitation Center started its operation in the Grzędy Protective District in Biebrza National Park. Every year many people apply to the Park for giving wild animals found orphaned or wounded, such as young elks, deers, wild boars, nestlings of white-tailed eagle or lesser spotted eagle, as well as owls, storks and swans. In many cases the Park couldn't take care of these animals, because of lack of adequate lodgings and financial support. Therefore these animals mostly are given to the zoo, or some Park's employees take care of these animals in private. In 1996 Biebrza NP built the homestead for orphaned elks, which was 9,81 hectares large and was situated in the Grzędy Protective District. Taking into consideration the opinions of people, which regard the national park as the institution obliged to protect wounded, sick or orphaned animals, and also for the purpose of increasing the active faunal protection in the Park, new Animal Rehabilitation Center was established. This center was built in the period of 2002-2003 in the place of earlier built homestead, and owing to the financial support from the National Environmental Fund and Water Management. The homestead is situated in the area overgrown by various and all-aged stand with regard to the biotopes, which assure the excellent protect and almost natural living conditions for animals. Inside the homestead many different lodgings were built, such as: two big lodgings for the predatory mammals (wolf, badger), isolation for new received animals, and also four lodgings for various bird species.

The Park is going to assure the universal care for animals, such as: food, artificial and natural watering places and veterinary help. After convalescence, once the animals become independent they will be set free. There will stay only the animals which are too much domesticated or invalid and could not survive at liberty. We also would like to appeal to everyone not to take the young, healthy and orphaned animals from their natural environment. Mostly these animals seem orphaned, because very often the parents leave their offspring without the temporary protection, but always they come back. In such cases our intervention may be harmful - the young yield may be abandoned.



Biebrza National Park



Biebrza National Park

c.) LITHUANIA: Sites and a state institution in Lithuania

Date: July 2-7 2012.

The plan was: In Lithuania I wanted like to visit the State Service for Protected Areas in Vilnius, and at least 2 national or landscape parks. My meetings and site visits will be organized by the Baltic Environmental Forum. In Lithuania there is no ranger concept implemented yet, however it is planned to introduce rangers functions in protected areas and Natura 2000 sites. Therefore it would be very interesting for them to share my findings and experience with them, in their opinion it would support the concept development in Lithuania. Anyhow Lithuanian future ranger service will be established on the basis of currently working ecologists in the protected areas who are involved in the Natura 2000 management.

Contact person: Zymantas Morkvenas, Baltic Environment Forum (BEF)

In Lithuania there are no rangers, except for one chief ranger at one of the regional parks (Neris Regional Park Administration), where they employ a part time one. The usual ranger duties are covered jointly by the national park's workforce, the environment protection inspectorate's resources and by the workers of various nature protection associations. There is no common agreement on whether rangers should be employed at the management administrations of protected areas, or not. A ranger concept is being developed in co-operation with the Baltic Environmental Forum, which is one the leading nature conservation NGO-s of Lithuania.

The system of Lithuania's protected areas has been developed for over three decades, and more than 60 years passed since the first protected area was established. It consists of strict reserves and reserves, national and regional parks, biosphere reserves and polygons, heritage objects, and other protected areas. They were established to conserve the most important and valuable areas of Lithuania.



Lithuania



Lithuania

When the system of protected areas is already created it is useful to have a unified marking of the area or its parts. As soon as protected areas were established there arose a need to mark them in maps and schemes, near roads and frequently visited places. This became in particular important in 1997, when administrations of the regional parks were established, and management programs for protected areas were implemented.

First attempts to make the marking of protected areas uniform were made in the late Soviet years. Most of the attention at that time was paid for the marking of reserves, because they made the greater part of protected areas. However, the system of protected areas changed, and expanded. In the last decade, Ministry of Environment and protected areas and developed emblems for each protected area. Some of emblems successfully reflected the essence of protected areas, but could not reflect the place that one or another protected area had in the system. The lack of financial resources did not allow creating a unified protected areas marking system until now.

System of protected areas of Lithuania

Consists of 3 natural and 2 cultural state strict reserves, 5 national and 30 regional parks, and 261 state reserves. Municipality boards have established over one hundred of municipal reserves. The system of protected areas of Lithuania that also includes protected objects of the landscape and covers about 10 thous. km²

Protected areas of Lithuania entered into international lists of protected areas

In 1993, state strict nature reserves (Čepkeliai, Kamanos, Viešvilė, Žuvintas) and Nemuno Delta Regional Park were inscribed into the list of the Convention on Wetlands, Ramsar, 1971.

In 1994, the Old Town of Vilnius was included into the list of UNESCO's World Heritage. UNESCO's World Heritage Committee has inscribed Curonian Spit (Kuršių Nerija NP) on the World Heritage in 2000. This is transboundary World Heritage property that shares Lithuania and Russian Federation. The Kuršių Nerija National Park, together with the Nemuno Delta and Pajūris regional parks were entered into the Baltic Sea Protected Areas' System, while putting into practice the HELCOM recommendation No. 15/5 of 1994.

Aim of strict reserves is to preserve typical or unique complexes of the landscape, their biota gene-fund, arrange regular scientific researches and observations, and propagate natural and cultural valuables. According to their complex peculiarities, strict reserves are classified as nature — for preservation of the most valuable complexes of natural landscape — and culture — for preservation of the historically most valuable complexes of cultural scenery.

Category	Area (ha)	Year of establishment
<i>State strict reserves:</i>		
<i>Nature:</i>		
Čepkeliai	11212	1975
Kamanos	3935	1979
Viešvilė	3216	1991
<i>Culture:</i>		
<i>Vilnius castles</i>	51	1997
Kernavė	199	1989
<i>Small strict reserve:</i>		
Dubrava	120	1994

Purpose of reserves is to preserve complexes of natural and cultural heritage or their individual elements, species of flora and fauna, and ensure diversity and ecological balance of landscape, and to be an object of scientific researches and cognitive recreation.

STATE AND MUNICIPAL RESERVES

Type	State		Municipal	
	Number	Area (ha)	Number	Area (ha)
Geological	10	631		
Geomorphological	40	22800	4	544
Hydrographical	34	12890	4	569
Pedological	11	1272		
Botanical	32	5203	34	2154
Zoological:				
Teriological	1	8	11	304
Ornithological	10	2900	12	804
Herpetological	3	124	1	1
Ichthyological	10	10144		
Entomological	6	474	1	216
Botanical-zoological	16	17255	24	2310
Telmogical	39	23868	2	76
Talasological	1	14027		
Landscape	48	54358	19	5062
Total:	261	165954	112	12040

In 1960 several hundreds of trees were proclaimed nature monuments. More trees, stones, springs, rock exposures, parks, etc. were proclaimed nature monuments later. Subject to the Law on Protected Areas, protected landscape objects are individual elements of natural and cultural heritage or compact groups of such elements. Special protection regime is applied on them because of their scientific, historical, artistic and cognitive value. The most valuable natural landscape objects protected by the State are proclaimed nature monuments.

The first national park that covered an area of 30.3 thousand ha was established in 1974. Determinant steps in information of the system of state parks were taken after Lithuania has regained its independence. Dzūkija, Kuršių Nerija and Žemaitija national parks and Trakai Historical National Park were established in 1991. Thirty regional parks were established in 1992.

Aims of establishment of Lithuanian national and regional parks are more than preservation of the landscape of natural and cultural value but also propagation and support of ethnic-cultural traditions of Lithuanian regions, creation of conditions for recreation, and, first of all, cognitive tourism.

National parks *156 946 ha*

- Aukštaitija 41154ha;
- Dzūkija 58519ha;
- Kuršių nerija 27219ha;
- Trakų istorinis 8150ha;
- Žemaitija 21720ha

Regional parks *436 922 ha*

THE STRUCTURE OF ADMINISTRATION OF THE NATIONAL PARKS

RESPONSIBLE INSTITUTIONS AT NATIONAL LEVEL	
<i>MINISTRY OF ENVIRONMENT</i>	<i>MINISTRY OF CULTURE</i>
STATE SERVICE ON PROTECTED AREAS	DEPARTMENT OF CULTURAL HERITAGE PROTECTION
ADMINISTRATIONS OF NATIONAL PARKS	
AUKŠTAITIJA NATIONAL PARK	TRAKAI HISTORIC NATIONAL PARK
DZŪKIJA NATIONAL PARK	
KURŠIŲ NERIJA NATIONAL PARK	
ŽEMAITIJA NATIONAL PARK	
INSTITUTIONS OPERATING IN NATIONAL PARKS	
COUNTIES MUNICIPALITIES INSTITUTIONS UNDER THE MINISTRY OF ENVIRONMENT (REGIONAL DEPARTMENTS) INSTITUTIONS UNDER THE MINISTRY OF CULTURE (REGIONAL STRUCTURES) STATE AND PRIVATE ENTERPRISES NGO	
STAKEHOLDERS - THE MEMBERS OF THE COUNCILS ESTABLISHED AT THE NATIONAL PARKS ADMINISTRATIONS	
MUNICIPALITIES COUNTIES INSTITUTIONS UNDER THE MINISTRY OF ENVIRONMENT (REGIONAL DEPARTMENTS) INSTITUTIONS UNDER THE MINISTRY OF CULTURE (REGIONAL STRUCTURES)	

THE STRUCTURE OF ADMINISTRATION OF THE REGIONAL PARKS

RESPONSIBLE INSTITUTIONS AT NATIONAL AND MUNICIPAL LEVEL	
<i>MINISTRY OF ENVIRONMENT</i>	<i>VILNIUS MUNICIPALITY</i>
STATE SERVICE ON PROTECTED AREAS	
ADMINISTRATIONS OF REGIONAL PARKS	
ADMINISTRATIONS OF 28 REGIONAL PARKS	ADMINISTRATION OF 2 REGIONAL PARKS
INSTITUTIONS OPERATING IN REGIONAL PARKS	
COUNTIES MUNICIPALITIES INSTITUTIONS UNDER THE MINISTRY OF ENVIRONMENT (FORESTS ENTERPRISES, REGIONAL DEPARTMENTS) INSTITUTIONS UNDER THE MINISTRY OF CULTURE (REGIONAL STRUCTURES) STATE AND PRIVATE ENTERPRISES NGO	
STAKEHOLDERS INVOLVED INTO THE COUNCILS ESTABLISHED AT THE REGIONAL PARKS ADMINISTRATIONS	
MUNICIPALITIES COUNTIES INSTITUTIONS UNDER THE MINISTRY OF ENVIRONMENT (FORESTS ENTERPRISES, REGIONAL DEPARTMENTS) INSTITUTIONS UNDER THE MINISTRY OF CULTURE (REGIONAL STRUCTURES)	



Dzūkija National Park (July 2-3 2012.)

The Dzūkija National Park was established on 23 April, 1991 according to the Supreme Council decree No. I-244 of the Republic of Lithuania to protect, manage and utilise the richest, naturally and culturally, territories of Dainava land. The principal object is to protect particularly valuable natural and cultural complexes of Dainava land, to cherish cultural traditions of Dzūkija, to spread traditional farming methods and to form conditions for cognitive tourism. It is the largest territory protected in Lithuania of 55,900 hectares. Forests cover 43700 hectares. The major part of the park lies in Varena district (ca 95%) while smaller parts cover Alytus district (ca 4%) and Lazdijai district (ca 1 %). The park is situated in Lithuania's south, at 100 km south-west from Vilnius and 100 km south from Kaunas

The park is maintained by 200 workers. Its territory is divided into 10 forestry districts. Merkine small town and 79 villages are inhabited by a population of 4,000. Over 50% of park inhabitants are of retirement age and only 10% are younger than 15. The largest settlements of the Dzūkija National Park are Merkine (1590 inhabitants), Marcinkonys (866), Panara (263) Musteika (104) and Margionys (91). The park belongs to the Federation of European National Parks and the Association of Baltic National Parks

The Dzūkija National Park lies in the south of the Dainava sandy plain. North-western edge of the park climbs on the Dzukai hill. The dividing line between these areas goes by Veisiejai-Merkine morainal hilly track. Around two thirds of the park territory lie in a sandy plain channeled by steep slopes with river valleys of distinct terraces. The most unique park landscapes are the mainland dune massifs of Marcinkonys, Lynežeris, Grubaulia and Šunupis. These were formed after the second stage of the glacial period (30,000 years ago). The surface of the plain is varied by ravines with small lakes. At Merkine, the morainal highness is dominated by landscapes of average hilly ravines, different soil and farming land covers and chains of lakes. Where the waters of the Nemunas river had broken a morainal crest, now stony shoals are set (Noblewoman by Ulčičiai, Falcon by Dubaklonis, Scissors by Merkine, Sewer by Maksimonys). Before gnawing through the morainal crest, the river wandered into different directions for a while leaving a valley of 4-6 km (near Panara and Netiesa villages, in particular) and the curves of old river-beds of 2-3 km radius (Pakrykšte marsh). The park's territory is at 100 m above sea-level on the average. The highest point is Dalgiakalnis hill (168.2 m above sea-level) that is found in the massif of lowland dunes at 4 km distance north-east from Marcinkonys. The lowest place is a channel of the Nemunas river at Krikštonys (66 m above sea-level).

Climate. The park's climate is more continental than in other parts of Lithuania. The sun radiation received is one of the highest in Lithuania. Sharp fluctuations of day and annual temperature as well as the earliest and the latest frosts are noticeable. The average temperature in January falls to -5.4 °C, maximum down to - 40.0 °C. In July, the average temperature is +17.7°C and may rise at most to +37.0 °C (the highest in Lithuania).

Soils. Within the territory of the park, particularly in the south-east plain, infertile podzolic sandy soils dominate. To the north-east of Merkine and in the environs of Žeimiai, turfen podzolic sandy and sandy loam soils are found; in higher zones, these soils are interfered with turfen carbonate sandy soils ripped off on gravel. Typical turfen carbonate soils, formed on freshwater limestone lens or lime layers, are spread in the valleys of the Skroblus and other rivers and lake shores. Alluvial soils may also be discovered in river valleys. Marshy soils of lower type expand in the upper and the middle Skroblus, the upper Gruda and the valleys of Šilinge, Pakrykšte and Kempe. Higher marshy soils are mostly found in the southern park territory, the environs of Musteika village



Dzukija National Park



Dzukija National Park

The Dzukija National Park is divided into 4 functional zones: preservative, protective, recreational and economic. The preservative zone (reservations and preserves) occupies 262 580 thousand hectares (47.5% of territory). The strictest protection regime is applied to 3 reservations that cover 2 080 hectares in total. The Musteika reservation stretches through the upper reaches of Musteika brook and the surrounding forests. The Povilnis reservation preserves the outlet sources of Povilnis rivulet, suffocic cirques and canyon-like upper reaches of the rivulet valley. The Skroblus reservation includes the middle reaches of Skroblus rivulet and its lower reaches between Kapiniškiai and Dubininkas villages. The landscape preservations occupy 13 060 hectares. The richest sections of the Nemunas, the Merkys and the Ula rivers were announced to be the preserves of the park. The unique source and higher reaches of Skroblus rivulet with abundant springs, its wide valley with a structurally characteristic land-tenure of Kapiniškiai village and the ethnographically valuable Margionys village are secured by the Kapiniškiai preserve. In the northwestern part of the park, the Lizdai preserve protects a distinct morainal hill-chain with deep thermoclastic pits, Lizdai, Galvinis and Bedugnys lakes, lake shore marshes and the Ežerynas camp of the Stone Age. Many archeological riches are found in the Glynas landscape preserve which includes Lake Glynas, Glynupis brook and a complex of five old camping places. Other natural preserves occupy 10 600 hectares dominated by geomorphologic preserves protecting characteristic to Dzukija and other unique elements of landscape. For the preservation of Dzukija continental dunes, even 4 preserves - Alkunes kampas, Dreves, Marcinkonys and Šunupis - were established. Ucieka, Gudeliai and Pakrukšte geomorphologic preserves were formed to maintain the characteristic relief elements of the Nemunas valley.

The relief of the southern slopes of Dzukija morainal highlands is well represented by the Merkine geomorphologic preserve located northwards of Merkine small town. The most cherished elements of the river-chain of Dzukija are also preserved in hydrographic preserves, the Gnuda and the Netiesos. Scarce marshes of the Dzukija National Park are protected in thermologic preserves - Delynas, Didžiabale, Bakanauskai and Imškos. The single botanical preserve of Subartonys forest protects rarely met spruce groves mixed with oak-trees and rich grasses that are characteristic to Dzukija highlands. The park keeps 60 natural monuments, including 18 landscape objects - precipices of the Ula, the Merkys and the Nemunas, fascinating ravines, springs, rock exposures, mountain-ridges, chasms and lakes. The most outstanding natural monuments are considered to be the spring "Ula eye", old bee-keeping relics - the hollow pines, the lime tree Lietuvis (Lithuanian) in Margionys village and Zenynai oak.

Rivers. The park's territory belongs to the Nemunas river basin. The park includes the Middle Nemunas, the sections of the Merkys, the Ula and the Gruda rivers and the unique Skroblus rivulet - 30 large and small rivers in total which are nourished by ground water. Therefore, the flow of rivers and Merkys river - 700 litres per second. There is no other so short and deep brook in Lithuania. Geomorphologic processes take place in the Skroblus river basin very intensively. Some pits particularly capture one's attention - they are deep, steep and shady.

Lakes. The Dzūkija National Park has 48 lakes the total space of which is 232 hectares. The largest lakes are Lizdai (27 ha), Lynas (18.5 ha), Gelovine (15.9 ha), Glynas (15.2 ha), Galvinis (12.4 ha), Gilse (10.6 ha) and Kastinis (10.1 ha). In the north-west part of the park, where the ravine vale crosses the sandy terraced plain of the Nemunas river, Krokinis, Ežerinis, Lizdai, Galvinis, Kazamkelis, Bedugnis, Giluišis Balaežeris, Netiesis, Netieselis, Dumblinis, Pakampis, Ešerinis Pilselis and Lauja lakes are centered. Gelovine, Gilše, Kampinis, Pakelinis and Linmarkas lakes lie in the Masališkis pit, near Subartonys. These lakes are mostly narrow, deep, with steep shores and meandering. In the territory of the old valley (lower terrace) lakes Mergeles akeles and Glynas are found.

Most of the territory is covered by forests where pineries dominate (92%). The commonest pine forests are of lichen (51 %) and cowberry (33%) sors. Their warmth-loving plants predetermine the floral uniqueness of the Dainava plain. Sprucegroves are mostly characteristic to highlands, to the north of Merkinė. Black alder groves concentrate near marshes and in river valleys. Birch groves usually gather in former places of conifers and mixed forests. Elmgroves near the valleys of springy rivers, the Nemunas in particular, are notable for their originality. In the Dzukai hill and in dry river slopes, small thermophilic shrubbery may be found where hawthorns, spindle-trees, buckthorns and other shrubs grow. Ripe tree groups form only 2%. The average age of tree group is 55 years

Marshes. The largest marsh areas are in the park's south, around Musteika village. The marsh flora is also spread in the shores of singular lakes. Small marshes are found in lowered hilly areas of the park at Subarfonys. Very peculiar floral populations of intermediate marshes are concentrated in the valley of Kempe rivulet and the marshy Skroblus valley in Kapiniškes - so called Skerdzimai meadow. In bigger marshes, the flora of various marsh types - lower, intermediate or higher - may be found. In smaller ones, the floral population is less diverse, since the flora of low marshes dominates. Natural or seminatural meadows account for a small number. They are concentrated in the valley and hill slopes. Many varieties came to Lithuania by river valleys and sandy plains from south-eastern and central Europe. For this reason, many limit-spreading variables, which are absent or very rare in other parts of Lithuania, now may be found in the Dzūkija National Park. Most of these species are included into the list of protected plants. Besides, in the park, certain species were found that are very infrequent in Lithuania and attributed only to 10 finding places - Equisetum telmateia, Dentaria bulbifera, red helleborine (Cephalanthera rubra), western marsh orchid (Dactylorhiza majalis), Botrychium matricariifolium and B. virginianum and other

The forests of the park give the richest mushroom crop known for others (Lutra lutra), beavers (Castor fiber) and minks in Lithuania. Among edible mushrooms - boletus and chanterelle (Lutetia vison). Such rare animals as mountain hare (Lepus timidus) and common dormouse (Glis glis) are also found in and Liškiava, saffron milk-caps are not rare, while in the National Park. Sands of Marcinkonys environs, green mushrooms pour out in autumn. There are around 300 mushroom species stated in the park territory, including 10 protected sorts, though this is not the limit as the exploration of the park's mushrooms is rather poor. Even 212 lichen species were discovered in the park within 400 sors known in Lithuania. Lichen appears on various trees, rotten stumps, soil and granite pebbles. In clean brooklets, even water lichen was found. The lichen flora of pine forests is very rich and diverse.

July 02. 2012. 11.00 Meeting with Mindaugas

Lapelė and Giedrius Valentukevičiaus guided visit to Musteika military polygon on the Belorussian border to see heath habitat management with prescribed fire. Topics discussed:

- how to make and keep clean open areas in closed forest areas
- possibilities to introduce the ranger concept and make it a reality in Dzūkija National Park Directorate

14.00 meeting with inspectors of Dzūkija National park, discussion about their duties and ranger potential in the Marcinkonys visitor center

July 03. 2012. Ecotourism facilities and visitor management, canoe trip on River Ūla. Inspectors already have duties, which overlap with rangers' ones, but they are still authoritential ones, applying fines, restrictions instead of communication and problem solving.

Baltic Environmental Forum (July 04. 2012.)

At BEF Lithuania we are convinced that our planet should be protected not from people, but together with people.

They are a team of experts in nature conservation, management of water and chemicals, energy and climate change, sustainable development and environmental communication. They've worked for international NGO networks, public service, in science and business. Today most of their daily efforts are dedicated to engaging in environmental policy-making, stakeholder involvement, institutional capacity building, public education and awareness raising, also various voluntary public initiatives. While at it, they team up with other organisations that share our values and passion for the future where humans live in harmony with nature.

BEF Lithuania is a member of the Lithuanian Environmental Coalition. Since 2003 organization belongs to an international BEF Group with offices in Latvia, Estonia, Germany and Russia.

July 04. 2012 9.00-11.00 meeting with Baltic Environmental Forum (Žymantas Morkvenas and Kęstutis Navickas) about rangers in LIT, impressions, discussion.

13.00 Meeting with State Protected Areas Service

Rūta Baskyte, director

Elzė Lagunavičiūtė

Nerijus Zitkevičius



State Protected Areas Service



Baltic Environmental Forum

Neries Regional Park (July 05. 2012.)

The territory of the Neris Regional Park with the picturesque system of the Neris turns and its affluents, with the rich forest biota of the Neris valley covers the area of 10 587 ha. The park was established in 1992 with a view to protecting this expressive landscape, the forests of the Neris valley, the massifs of oak-woods as well as cultural heritage values. The territory spreads in Vilnius–Trakai–Kernavė area making a triangle, which is very attractive to tourists and well connected with good regional roads. In terms of administration, the park territory belongs to the municipalities of Vilnius and Trakai districts as well as Elektrėnai, Dūkštos, Sudervė, Vievis and Lentvaris forest enterprises manage the forests of the park, spreading for 96 per cent of the territory.

The Neris, flowing in the territory of different genesis, crosses hilly till heights, scouring 40-50- meter deep valleys with dramatic terraces, and it charms by unique views. Impressive valley precipices and oak-covered slopes open. From time out of mind our ancestors lived here and set up old settlements on both picturesque banks of the Neris. The geographical location and geopolitical situation of the time and the subsequent period determined the natural formation of the old Lithuanian settlements having one common system of Kernavė–Vilnius mounds in this territory. Here the Lithuanian state was forming, and the vicinities were the main center of Lithuania's statehood of Mindaugas' times. The high mounds, saint grove hills, centennial oaks, old settlements and the abundance of barrows overlooking the river coasts reveal those times, the pattern of the people's lives, customs and beliefs

July 05. 2012.9:00 Meeting with Audrone Zickute, director of Neries Regional Park Directorate



Neries Regional Park



Lithuania

Žemaitija National Park (July 5. 2012.)

Žemaitija National Park was established to protect wooded and lake-covered natural complex, wooded swamps, hydrographical complexes of Lake Plateliai, LAumalenka and Šilinė, rare and endangered species of flora and fauna, archeological and urban complexes, ethnocultural villages, other values.

Žemaitija National Park was established in 1991 with the aim of preserving, managing and sustainably developing these areas of Žemaitija in north-western Lithuania, that are most valued for their natural and cultural qualities.

The Park's goals are: to conserve the main system of lakes and forests in Žemaitija, the existing cultural heritage and cherish the cultural traditions of Žemaitija, disseminate ideas and knowledge of environmental protection, promote appropriate recreation activities, and primarily develop interpretation and education as sustainable tourism.

Žemaitija National Park was awarded the title „2008 European Tourist Destination of Excellence in Intangible Heritage”

The total area is 21720 ha: woodlands occupy 9683 ha (44,6%), water – 1857 ha (8,5%), wetlands – 963 ha (4,4%), natural meadows and pastures – 1614 ha (7,4%), farmlands – 6794 ha (31,3%), settlements – 360 ha (1,7%), other – 449ha (2,1%)

The territory of Žemaitija National Park is divided into the following Functional Zones: Conservation (10460 ha, 48,1%), Protection (3140 ha, 14,5%), Recreation (520 ha, 2,3%), Farming (7600 ha, 35,1%).

The total population is 3500. There are 2 small towns (boroughs) and 53 villages.

The undulating landscape of Žemaitija National Park was moulded 10,000-12,000 years ago by ice sheets and receding glaciers. Typical features are rounded hills, moraine ridges around Lake Plateliai, and a great number of deeper or shallower lakes, bogs and meandering streams. The highest point is 191,8 m.

There are 26 postglacial lakes and 32 streams in the park. The territory of the Žemaitija National Park is watershed to 3 river basins: the Minija, the Bartuva, the Venta. There are lots of large and small bogs. The bog of Šarnelė in the Wetland Reserve of Paparčiai in the classic example of Žemaitija's raised bogs. Examples of transition mires and alkaline fens are found at Siberija, Šeirė and Stirbaičiai.

191 species of birds have already been identified in the Park and 52 of them are extremely rare like Black Stork (*Ciconia nigra*), Honey- Buzzard (*Pernis apivorus*), Corn Crake (*Crex crex*). There are 49 species of mammals and 13 of them such as Lynx (*Lynx lynx*), Otter (*Lutra lutra*), White hare (*Lepus timidus*), etc. are protected. 10 species of bats out of 15 species found in Lithuania are registered in the Žemaitija National Park. The most common are Brown long-eared bat (*Plecotus auritus*) and Netterer's bat (*Myotis nattereri*). In addition to the common species of fish, there are also rare fish of the Salmon family European Cisco (*Coregonus albula*) and European Whitefish (*Coregonus lavaretus holmsatus*), that have existed in Lake Plateliai since the post-glacial period. The world of insects is especially varied. Over 620 species of beetles and 663 species of butterflies are found there.

There is a rich and diverse world of plants with 811 species of plants, 214 species of mosses, (69 species of plants are listed in the Red book of Lithuania as rare or endangered). There are also some species of plants that are under protection in the European Union: *Botrychium simplex*, *Liparis loeselii*, *Hamatocaulis vernicosus*. Some species like *Cladium marsicus*, *Trichophorum cespitosum*, *Carex magellanica*, *Lunaria rediviva*, *Salix lapponum*, *Primula farinosa* are relicts of glacial times.

485 species of mushrooms with 33 rare species among them and 269 species of lichens with 15 rare species among them have been found in the Žemaitija National Park.

Forests cover nearly half of the Park's territory and the predominant species is a spruce (47%). There are also pine-trees (26%), birches (13%), grey alder-trees (4,4%), oaks (4,1%). Occasional natural meadows are interspersed between forests, hills, bogs, lakes and springs. Žemaitija National Park is famous for its rich cultural heritage from the Stone Age. The people of this area, so-called žemaičiai, have preserved their dialect, customs, characteristic trails, original buildings and vernacular architecture. There are more than 200 items of cultural value including castle hills, sacrifice hills, burial mounds and ancient settlements. The castle hills include Užpelkiai, Gegrėnai, Pūčkoriai etc. the sacrifice-hills are found in Visvainiai, Mikytai, Vilkai, Gilaičiai, Paparčiai and ancient settlements in Gegrėnai and Šarnelė.

The most significant architectural features are the churches in Plateliai, Beržoras and Žemaičiu Kalvaria, the Water Mill in Babrungėnai and some ancient farmsteads. More than 90 ancient art works are preserved, mostly crosses, chapels, roadside poles with statuettes of saint that have been built alongside roads or fixed on trees.

July 05. 2012 17:30 Meeting Giedrius Noviaris, director of Žemaitija NP Directorate and colleagues

Discussion about the possible roles of rangers in Natura 2000 site management

19:30 Field visit to Zemaitija NP, management of peatbogs for biodiversity against succession, overgrowing by shrubs and trees

Visitor management around Plateliai Lake, problems with too many visitors during holidays



Žemaitija National Park



Žemaitija National Park

Curonian Spit National Park (July 6. 2012)

A spindling 98 km long strip of land locked in waters of the Baltic sea from West and the Curonian Lagoon from East is a beautiful creation of nature and people endeavor. The present landscape of the Curonian Spit was mostly formed by people trying to put a bridle on winds and sand. That's why the Curonian Spit was admitted to be a National Park, what is more, it is an exceptional case of human and nature conjunction that was included into UNESCO World Heritage List.

According to a legend, the Curonian Spit was poured of sand by giantess Neringa playing in the seaside. Some people consider Neringa to be an equivalent to a female version of a Greek valiant Heracles. Historically the Curonian Spit was formed 5000 years ago. According to archeologists the area used to be a major pagan center in 9-11th centuries.

In 1757 the entire villages were buried under moving dune sands because of disforest to satisfy rapidly growing timber needs. In coping with this trouble the Prussian government initiated the large-scale reforestation of the spit. Nowadays much of the Curonian Spit is covered by forests owing for these efforts. The tourism in the Curonian Spit flourished after the breakup of the Soviet Union. The Curonian Spit attracts visitors in its quietness, cleanliness, relaxing atmosphere and unique landscape containing the highest moving sand dunes in Europe (average height 35m, the highest 60m), admirable seashore and townships amazingly adjusted to natural surroundings.

Traveling the Curonian Spit can be not only relaxing, but entertaining as well. The spit contains of 9 settlements, 7 of which belong to Lithuania. The rest belong to Russia as in the spit there is a boundary between Lithuania and Russia. The largest town of the spit is Nida, each year attracting more than 50.000 tourists, mostly Lithuanians, Latvians, Russians and Germans. The resort offers various kinds of activities and places to visit. Almost the most famous is the Lithuanian Sea Museum, Aquarium and Dolphinarium where visitors are able to watch live dolphins, seals and sea-lions performances, that are loved not only by children but by grownups too because of their vitality, joy and sincerity. What is more, everybody are delighted by the huge variety of sea animals, fishes and plants exposed in many splashy aquariums. Tourists must also visit the spectacular 45 m height hill called The Hill of Witch where many unique folk sculptures of withes, devils and various unknown creatures of fantasy world are exposed. The exposition is really breathtaking as from the Hill of Witch a spectacular view of dukes, sea and forests opens. There are many more interesting places to visit in Smiltynė, Juodkrantė, Pervalka, Preila and Nida as well as lot of types of leisure time activities like boating, fishing, survey flights, excursions, bicycling or just having dinner outdoors.

The Curonian Spit is called the pearl of the Baltic sea. As soon as people visit it, they do not have to be persuaded that it is an absolute true. Beautiful surroundings, variety of time spending and marvelous landscape of dunes, Baltic seaside and Curonian Lagoon compose an impression of admiring a real gemstone, that, according to UNESCO criteria “V”, is an “outstanding example of traditional human settlement, land-use and sea-use which is representative of a culture and human interaction with the environment”.

July 06. 2012. 9:00 Visit to Curonian Spit NP, managing areas burned down in 2007



Curonian National Park



Curonian National Park

d.) SCOTLAND: Eden Estuary, Scotland

Date: September 25 – October 4, 2012.

The plan was: The Fife Coast and Countryside Trust in Scotland, UK is in charge of the management of the River Eden Special Area of Conservation (UK0012643). According to its standard data form the site is designated mostly for two wetland habitat types of community interest (water courses of plain to montane levels, and oligotrophic to mesotrophic standing waters) for the fish otter, which is quite common at the site. Rangers have a wide variety of roles in the effective site management here, including bird censuses, monitoring of priority species, mapping of habitats, they do a lot of interpretation activities in terms of guided walks and educational visits, and communicate a lot with the local and regional stakeholders, like the Forestry Commission, the police and local communities in order to implement a successful site management. I think a study visit to this site would give me a lot of new methodological information about protected area and Natura 2000 site management.

Contact person: Ranald Strachan (email: Ranald.Strachan@fifecountryside.co.uk), Ranger in the Eden Estuary, Fife Coast and Countryside Trust

According to my current experiences, the system of rangers is the most complicated in Scotland. Even though I aimed to provide a complete and comprehensive snapshot of it, I am afraid many gaps remained unfilled. My tour started in Cairngorm National Park where there are 22 Rangers Services within this single national park.

What is the role of the Ranger in UK

- Day-to-day site management (including biodiversity; habitat & landscape)
- Site management planning
- Supervising staff; contractors and volunteers
- Engaging with the community/visitors
- Access & “Rights of Way” issues
- Leading groups & guided walks
- Education & Interpretation
- Compliance (site byelaws/rules)
- Sourcing funding; ecotourism



Scotland



Scotland

Cairngorm National Park (September. 2012)

About the Cairngorms National Park

They say there are no other mountains in Britain like the Cairngorms. Massive granite domes with corries and passes scooped out; broad rolling plateaux more like the arctic than the UK; nowhere else is consistently higher, colder or wilder. The mountains dominate the Park and have an effect on the way people live and the landscapes they live in.

Facts and figures about the Cairngorms National Park

- The Cairngorms National Park is the UK's largest National Park at 4,528 square kilometres, comprising about six per cent of Scotland's land area
- About 17,000 people live in the National Park. The population, including the proportion of 18-24 years olds, has been growing steadily since 2001
- About 1.4 million people visit the National Park each year
- The National Park is home to 25 per cent of the UK's threatened bird, animal and plant species
- Half of the area of the National Park is designated as being of European importance for nature conservation
- The National Park is centered on the largest area of arctic mountain landscape in the UK and contains the largest extent of semi-natural pine forest in the UK
- Five of Scotland's six highest mountains are within the National Park

Royal Deeside and the Cairngorms is home to some of Britain's rarest and most spectacular wildlife. Braemar Highland Safaris offer spectacular half day land rover safaris deep into the heart of the Cairngorm mountains. Contact them for wildlife activity holidays and breaks.

Golden eagles are resident in the area and can often be seen in the skies in areas such as Glen Muick, Glenshee and Upper Donside. Ospreys are becoming more widespread and can be spotted fishing at Muir of Dinnet National Nature Reserve, along the River Dee and at many of the small fishing lochs in the area. .

The magnificent and endangered capercaillie is found in our pinewoods, along with the Scottish crossbill - a bird that is unique to the Cairngorms. Our higher mountains are home to species such as dotterell, ptarmigan and snow bunting and you should also be able to spot mountain hares, which are fairly common in areas such as Glen Muick, Morrone Hill near Braemar, and Gairnshiel on Donside.

Our lower moorland terrain supports large numbers of red grouse and breeding populations of hen harrier, golden plover, dunlin and short-eared owl. You may also see crag-nesting species such as peregrines and ravens on our rocky hillsides and steep corries.

Magnificent red deer frequent the higher ground throughout our area. In October, the hills can reverberate with the roars of rutting stags as they clash antlers and vie to maintain their herds of females. Particular vantage points include Glen Muick and the main A93 road between Braemar and Glenshee Ski Centre. Watch out - deer sometimes come down onto the road creating a somewhat unusual traffic hazard. If you come face to face with a huge stag in the middle of the road, stay in the car and let him decide when you can drive on!

If you are lucky you may glimpse otters, pine martens and even wildcats in our pinewoods, which are also home to red squirrels. Once widespread throughout the UK, their numbers have been steadily declining so that Royal Deeside is one of the last places where they can be seen frequently.

They are smaller than the more common (and less attractive) grey squirrel and can sometimes be seen in local gardens raiding the food put out for birds.



Cairngorms National Park



Cairngorms National Park

Rangers in the Cairngorms National Park

Rangers promote the enjoyment, understanding and care of the National Park. Their work is vital to the successful management of the National Park and the delivery of the National Park Plan. Twelve ranger services cover the National Park employed by a variety of organisations including local authorities, private estates, charitable trusts and one community group. The work of rangers is paid for by their employer supported by grant aid and direct contributions from the public through donations, event charges, sale of guides and car park charges. CNPA directly grant aid nine of these services and works with all the services to co-ordinate the network of Cairngorms' rangers.

A Partnership Framework for Rangers Services in the Cairngorms National Park

Ranger Services in the Cairngorms National Park are provided in a unique and highly successful partnership arrangement by 12 different employers, including local authorities, private estates, charitable trusts, public agencies and one community group. Their work is vital to the successful management of the National Park and to meet the vision for the Park as set out in the National Park Plan.

All 12 services receive support from public funds with nine services in receipt of a specific grant for Ranger Services from the Cairngorms National Park Authority (CNPA). The Park Authority works to coordinate the work of all the Ranger Services in the Park.

Rangers Services in National Park

Ranger Service	No of Rangers FTE per annum	Funding
Highland Council	2	Highland Council and CNPA Grant
Angus Council	2	Angus Council and CNPA Grant
Aberdeenshire Council	0.4	Aberdeenshire Council and CNPA Grant
Explore Abernethy	0.7	Explore Abernethy and CNPA Grant
Rothiemurchus Estate	2	Rothiemurchus Estate and CNPA Grant
Glenlivet Estate	1.4	Crown Estate & CNPA Grant
Glen Tanar Charitable Trust	1.6	GTCT and CNPA Grant
Balmoral Estate	2.6	Balmoral Estate and CNPA Grant
Atholl Estates	2.25	Atholl Estate and CNPA Grant
Forestry Commission Scotland	1.0	FCS
Mar Lodge, National Trust for Scotland	1.5	NTS and SNH through a national concordat
Cairngorm Mountain	1.9	Highlands and Islands Enterprise
	19.35	

Ranger Services and the Cairngorms National Park Authority (CNPA) have a partnership framework.

The Partnership Framework sets out for the Cairngorms National Park:-

- a) The role and aims of Ranger Services
- b) A Vision for Ranger Services
- c) Opportunities to be developed in the next 5 years
- d) The role of Ranger employers seeking support from CNPA
- e) The role of Ranger Services in delivering the Cairngorms National Park Plan 2012-17
- f) The role of the CNPA in coordinating Ranger Services in the National Park
- g) Grant Application Process
- h) Monitoring and Review

The last Framework covers the period 2012-17 and provides the basis for coordination of the work for all ranger services in the Park. It will form the basis for considering grant applications made by employers to the CNPA and for most ranger services will be implemented through the agreement of work programmes and the acceptance of grant aid.

Role and Aims of Rangers

It has been agreed nationally that the overall purpose of Rangers is to connect people with places. Rangers should have strong people-skills, be knowledgeable about the natural and cultural heritage and be committed to increasing enjoyment, understanding and care of these resources by and for the public.

Rangers promote the enjoyment, understanding and care of Scotland's outdoors through: the first-hand provision of information, advice and activities; interpretation; the management of sites and facilities; and seeking to secure responsible behaviour (Role of Rangers SNH National Policy).

The National Ranger Aims are:

- a) *To ensure a warm welcome and provide support to help people enjoy the outdoors;*
- b) *To increase awareness, understanding, care and responsible use of the natural and cultural heritage; and*
- c) *To support the sustainable management and use of the outdoors to meet a range of social, economic and environmental objectives.*

All Ranger Services in the National Park should work to achieve each these aims, although the balance between them may vary from service to service. In some organisations, other staff may lead on, or contribute towards, one or more of them. But it is the Ranger Service which has the lead role in delivering these aims collectively through first-hand provision for the public in the outdoors.

A Vision for Ranger Services in the Cairngorms National Park

In a unique partnership arrangement there are 12 Ranger Services delivering the aims of their employers and working in partnership to deliver the aims of the National Park. In order to get the most from this partnership for employers, land managers, visitors, communities, and businesses we feel it is useful to have a common vision:-

A high profile network of Cairngorms' rangers, connecting people with an outstanding National Park. They work collaboratively to provide an innovative, inspirational and professional service. They are committed to enhancing public enjoyment, understanding and care of the outdoors; are focused on maintaining the quality and relevance of their work; and recognised, valued and supported by their employers, other related professions and the public.

(derived from SNH National Vision)

In meeting this vision it is essential that the role of the employer is recognised and local needs are delivered, and that the customer also sees rangers as professional sources of information about the National Park.

The Role of Ranger Employers

The provision of Ranger Services in the Cairngorms National Park is unique in Britain. Unlike any other National Park, Ranger Services are provided by 12 employers and not the National Park Authority. This arrangement allows local delivery of Ranger Services by staff that are fully aware of local opportunities and sensitivities. It supports Ranger staff that work alongside other employees who, working together, can collectively meet the needs of their employer.

These employers fund and directly manage their Rangers. It is the responsibility of the Ranger employer to provide adequate management support for Ranger staff, including regular line management, supervision and review.

National policy states that the most successful Ranger Services result where there is:

- a) a clearly defined and well understood role for Rangers within the employing organisation's overall strategy/service delivery plan;
- b) good leadership of the service and continuity in staffing;
- c) effective work planning and management systems in place;
- d) adequate budget support for revenue and capital costs;
- e) support for continuing professional development of staff including appropriate training;
- f) access to relevant support either within the wider employer's organisation or contracted in; and
- g) contact and close working with other Ranger Services and relevant organisations within or close to the area.

Ranger employers' apply to CNPA for a discretionary grant that, if approved is based on an agreed annual work programme that helps to deliver the National Park Plan.

It is fundamental to the partnership that ranger services deliver outputs that both meet the needs of their employers and deliver the National Park Plan.

The Ranger grant is offered to support agreed public benefits derived from the work of each service. Details of the full grant conditions are contained in CNPA Operational and Grant Application Guidance for Ranger Services.

CNPA will also use this framework with the three publically funded Ranger Services that do not receive direct grant to encourage collaborative working and delivery of the National Park Plan.



Ranger Base, Cairngorm National Park



Cairngorm National Park, visitor way

Ranger Services Outputs in CNP 2010-12

Raising Awareness and Understanding, and Promoting Responsible Access:

- a) 690,000+ Visitors welcomed by grant supported services (up from 580,000 in 2009/10). Add CairnGorm Mountain, FCS Glenmore and NTS and this figure increases to over 1 million.
- b) 8714 people attended a Ranger led event (up from 4112 in 2009/10).
- c) 6769 young people in education spent time with a Ranger (up from 2460 in 2009/10).
- d) Over 900 days of Ranger led Volunteer activities (up from 613 in 2009/10).
- e) 3 x 1-week Europarc Junior Ranger programmes delivered (2 in 2009/10) plus follow-on programmes. There has also been an International exchange to Bavaria and attendance at Europarc Junior Ranger Camp in Netherlands.

Conserving and Enhancing:

- a) Much of the work of ranger services is aimed at improving biodiversity. Their role is often one of support and building capacity to encourage 'volunteers' to engage with nature.
- b) Rangers make significant contributions to the monitoring and management of BAP/LBAP species and habitats. This work is a vital part of the delivery of targeted action for the Cairngorms Priorities. Some examples of work undertaken in the last reporting round include:
 - i. Black grouse - annual lek monitoring undertaken. This has led to the setting up and development of the Deeside Black Grouse Study Group.
 - ii. Rare Plants - as part of the Cairngorms Rare Plant Project, rangers have helped manage sites for twinflower and small cow-wheat. This has included the discovery of a new population in the Angus Glens.
 - iii. Red Squirrel – monitoring, survey and development of artificial drey sites. Development of county records system for Angus.
 - iv. Water vole – monitoring of mink rafts and surveys of water courses.
 - v. Wildcat – as part of the Highland Tiger project, camera trapping surveys have helped understanding of the species distribution across the CNP.
 - vi. Removal of invasive species (rhododendron, Japanese knotweed, sitka spruce, etc).
 - vii. Birds of prey monitoring (golden eagle, peregrine, hen harrier, merlin etc) for inclusion in the Raptor Watch and Raptor Track Projects.
 - viii. Capercaillie – lek monitoring and field layer management to encourage blueberry growth. Significant work undertaken on promoting responsible dog ownership at sensitive sites.
 - ix. Wetland – habitat creation including ponds and scraps created on the Glenlivet estate to benefit waders. Dragonfly pits in Nethy Bridge enhanced to encourage dragonflies/damselflies, newts etc. Ponds kept open in Glen Tanar for species benefit.
 - x. Aspen – Cuttings raised and planted with volunteers.
 - xi. Bats – Strathspey Bat Group has been set up through collaboration of several ranger Services to monitor populations in the area.

The Third Scottish Ranger Rendezvous (October 1-3 2012)

The Ranger Development Partnership and the Scottish Countryside Ranger's Association invited me to the third Scottish Ranger Rendezvous. The three day gathering was a chance to network with Rangers from across Scotland, participate in networking sessions, training workshops and seminars around the key theme of 'Culture Shock'. Over the three days I was able to explore the management and interpretation of Scottish heritage and examine possible solutions to conflicts in the management of land for its natural, cultural and historical significance. I was a guest in the event, and it was very interesting and useful to see how the Scottish rangers work together and how they address and resolve the Scottish nature and cultural heritage problems. It was the first time I met the Historic Scotland Rangers Service.



The Third Scottish Ranger Rendezvous



The Third Scottish Ranger Rendezvous

Loch Leven National Nature Reserve (October 2. 2012)

Scotland's largest lowland freshwater loch has the largest concentration of breeding freshwater duck in Britain including mallard, tufted duck, shelduck, wigeon, gadwall and shoveler, plus up to 20,000 pink-footed geese in winter. Various viewpoints including Vane Farm.

Loch Leven is a vast expanse of shallow freshwater, which makes it a great place for dabbling and diving ducks to search for food. There's plenty of fringing shoreline vegetation, and several large islands making Loch Leven a duck heaven.

The Loch is more than just a haven for ducks. From late summer right through to spring huge flocks of other wildfowl gather here. In summer there's a good chance of spotting osprey fishing.

Lulled by the gently moving surface of the water, it's hard to believe Loch Leven has been the site of some angry historical encounters.

The day-to-day management of the Loch is shared between SNH who manage most of the land and water within the NNR, RSPB who manage the wetlands on the southern shore and the woodland on Vane Hill, Kinross Estate who manage the fishing and shooting, Perth and Kinross Council who manage Kirkgate Park, and Historic Scotland who manage Castle Island and run the ferry. The River Leven Trustees are responsible for managing the Loch's water levels.

Eden Estuary (October 3-4 2012)

The Firth of Tay and the Eden Estuary are situated on the east coast of Scotland between Carnoustie in the north and St Andrews in the south and the site has been selected as a candidate Special Area of Conservation (cSAC). The qualifying features include *estuaries, mudflats and sandflats not covered by seawater at low tide, sandbanks which are slightly covered by seawater all the time* and common seals *Phoca vitulina*. It is also an important site for overwintering wildfowl and waders. In order that a comprehensive management plan can be developed to ensure the sustainable use of resources within the marine cSAC it is essential to obtain an understanding of the geographic distribution and extent of the habitats of interest. A comprehensive biotope mapping survey of the intertidal and subtidal habitats within the cSAC was undertaken in the summer of 2002, by a collaborative research group comprising staff from the University of St Andrews, Heriot-Watt University, Edinburgh University and Scottish Natural Heritage (SNH). Mapping of the intertidal of the cSAC was accomplished principally through the employment of QuickBird satellite imagery. This imagery was 'ground truthed' by data collected by intertidal surveys. At a selected subset of locations samples were collected for sediment infauna and granulometric analysis. Subtidal areas of the site were surveyed by rapid broad scale remote acoustic mapping techniques, with 'ground truth' data collected to enable the interpretation of the acoustically classed sea floor maps. The 'ground-truthing' data were collected in the field using a range of sampling techniques including video imagery collected by remotely operated vehicle (ROV), epifaunal samples collected by naturalists dredge and infaunal samples collected by both pipe dredge and Van Veen grab with subsamples also retained for granulometric analysis. This information supplemented the existing knowledge on the distribution of marine communities and sediments within the Firth of Tay and Eden Estuary cSAC and all this information was used to produce a series of biotope classification maps.

Eden estuary – Ranger Service

The ranger service received an enquiry from Fife Council Development services as to the viability of the mussel beds in the Eden Estuary for commercial extraction. This is an ongoing situation however the ranger service has replied strongly with reasons why this activity is contrary to the byelaws, the sites natural designations and the ethos of management for the reserve. This enquiry was generated by local fisheries and is part of a wider investigation into the feasibility of opening the St Andrews Bay fishery to commercial fishing. St Andrews University have been commissioned to carry out a feasibility study into this endeavour. This situation requires monitoring and an agreed approach to dealing with future developments of this nature. The ranger service worked together with members of the LNR management and landowners who have contributed and assisted them in delivering the reserves objectives.

Objectives:

- Maintain and enhance the integrity of the Reserve to support viable populations of wildfowl and waders (SPA, bird populations)
- Protect, maintain and improve key habitats and related species within the Reserve (SAC, habitats)
- Maintain and improve the value of the Reserve as a breeding area for birds (breeding birds)
- Protect, maintain and enhance the structure and function of the Estuary
- To maintain and increase our knowledge and understanding of the physical, biological and human features of the Estuary (research)
- Provide, promote and facilitate responsible public access

- Encourage educational use of the reserve at all levels from primary schools to universities (education)
- Promote and ensure efficient management and administration