A thesis submitted to the Department of Environmental Sciences and Policy of Central European University in part fulfillment of the Degree of Master of Science

Transboundary cooperation concerning bird migration. Case study of

Fertő-Hanság National Park in Hungary and Neusiedlersee-Seewinkel

Nationalpark in Austria

Kateryna BAUMAN

July, 2009

Budapest

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ABSTRACT OF THESIS submitted by:

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For the degree of Master of Science and entitled: Transboundary cooperation concerning bird migration. Case study of Fertő-Hanság National Park in Hungary and Neusiedlersee-Seewinkel Nationalpark in Austria.

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Transboundary cooperation is vitally important in all times but especially now when old boundaries are destroyed and new ones are created. Especially transboundary cooperation is needed concerning migrating species that acknowledge no countries' boundaries. Attention is focused on migrating birds in this work among other migrating species because birds often have economic value, migrate on outstanding distances, can spread diseases are subject to shooting sometimes non selective or/and massive that poses a threat on CR, EN and VU species.

The aim of this work is to analyze how effective the transboundary cooperation between FHNP and NSNP in the field of migratory birds' protection and research. In order to make some conclusions, objectives were set to achieve the goal. These objectives helped to find out necessary information: what are the drawbacks and problems in the process of bilateral cooperation concerning bird migration, what projects concerning migratory bird species go on in parks, what efforts are made to overcome existing difficulties in this field of cooperation, what are parks' plans for future cooperation and in what ways the cooperation could be improved.

The research was based primarily on the two sources: literature review as well as formal and informal interviews with the authorities and selected key people in FHNP and NSNP. The conclusion of this thesis is that the cooperation between these parks concerning migratory birds is effective but could be improved. Like more staff could be hired to eliminate constant bottleneck of staff's lack of time and would allow start and fulfill more environmental projects as it is welcomed and possibly would be funded by EU.

List of species being monitored could be extended incorporating more CR, EN and VU species. Also habitat reconstruction laws in Hungary have to be improved. Also it would be beneficial if parks headquarters cooperating would produce an up-to-date illustrated monograph about the joined international park. A short movie shot in the park is a productive idea as well. Optimization of *Szélkiáltó* ornithological journal (in Hungarian and English) is also an important task for the parks on future. Next step of the effective FHNP-NSNP bilateral cooperation would be its total unification in one park with one office and single headquarters. Such option is highly probable but not in the near future. This unification also needs political decisions.

Keywords:

Transboundary cooperation, frontier, borderland, environmental law, environmental policy, migratory birds, migratory species, birds, national park, Fertő-Hanság National Park, Neusiedlersee-Seewinkel Nationalpark, Hungary, Austria

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List of abbreviations

- AEWA African Eurasian Waterbird Agreement
- App. Appendix
- CBC Cross Boundary Cooperation
- CBD Convention on Biological Diversity
- CE Council of Europe
- CEE Central and Eastern European (countries)
- CIS Commonwealth of Independent States
- CMS the Convention on the Conservation of Migratory Species of Wild Animals
- CPUTWIL Convention on the Protection and Use of Transboundary Watercourses
- and International Lakes
- CR Critically endangered
- DFHNP Directorate of FHNP
- EECONET European Ecological Network
- EIA Environmental Impact Assessment
- EIWOG Austrian Electricity Management and Organisation Act
- EN Endangered
- ENHF European Natural Heritage Fund
- EU European Union
- FHNP Fertő-Hanság Nemzeti (National) Park
- FHNPI Fertő-Hansag Nemzeti Park Igaygatóság
- GB Great Britain
- INTERREG Inter Regional (Austro-Hungarian program)
- IR International Relations

IUCN – International Union for Conservation of Nature

LMSVG – Lebensmittelsicherheits- und Verbraucherschutzgesetz (*Citizens' Life and* Security Protection Law)

MEW and HNTO – Ministry of Environment and Water and Hungarian National Tourist

Office

- MOP Meeting of the Parties
- MoU Memoranda of Understanding
- NA&L Nationalparks (national parks) Austria and Lebensministerum (Ministry of

Environment)

- NI Neoliberal Institutionalism
- NP National Park
- NSNP Neusiedler See Nationalpark (National Park)
- P. Picture
- PHARE Poland and Hungary Assistance in Reconstruction of Economy
- SPAs Specially Protected Areas
- TBPA Transboundary protected areas
- TFCAs Transfrontier Conservation Areas
- UIG Umweltinformationsgesetzes novelle (Public Access to Environmental Data Law)
- UNECE United Nations Economic Commission for Europe
- UNEP United Nations Environmental Programme
- VU Vulnerable
- WCPA World Commission on Protected Areas
- WWF World Wide Fund for Nature

1. Introduction

Transboundary cooperation is vitally important in all times but especially now when old boundaries are destroyed and new ones are created. Boundaries are often perceived as a stable formation when actually they are changing in time and space all the time (Éger and Langer 1996). But to the transboundary cooperation there are many obstacles part of which can be overcome successfully, part can be solved under certain conditions and part can not be solved adequately because of general obstacles like political or economic climate.

Especially transboundary cooperation is needed concerning migrating species that acknowledge no countries' boundaries. Attention is focused on migrating birds in this work among other migrating species because birds often have economic value, they sometimes migrate on outstanding distances, can spread diseases dangerous for human beings like avian influenza and migratory bird species are subject to shooting that is can be also illegal in some cases but can be legal as well which is sometimes non selective or/and massive that poses a threat on CR, EN and VU species.

The aim of this work is to analyze how effective the transboundary cooperation between FHNP and NSNP in the field of migratory birds' protection and research. In order to make some conclusions, objectives were set to achieve the goal. These objectives helped to find out necessary information:

- What are the drawbacks and problems in the process of bilateral cooperation concerning bird migration
- Is there a solid legal basis for such type of cooperation
- What are biological, geographical and social peculiarities of the parks that influence the cooperation
- What projects concerning migratory bird species go on in parks

- What efforts are made to overcome existing difficulties in this field of cooperation
- What are parks' plans for future cooperation
- In what ways the cooperation could be improved

In this research transboundary cooperation concerning migratory birds between two national parks is analyzed as a case study. One national park is Fertő-Hanság NP in Hungary and another one is its transboundary partner Neusiedlersee-Seewinkel NP in Austria. No such research was made before so this one is meant to cover this gap and add to the understanding mechanisms of transboundary cooperation concerning migratory birds and its effectiveness.

In chapter 'Transboundary cooperation: difficulties and opportunities' obstacles to cooperation are analyzed, some possible solutions are given. Also short historical perspective of scientific terminology in this field and some examples of successful transboundary cooperation are given. Further in this chapter environmental aspects and cases of cross border cooperation are explored. Separate subchapter looks into difficulties and opportunities concerning cooperation in the field of migratory birds protection and research.

Chapter 'Legal aspects: protecting migratory species' deals mainly with international conventions and treaties that add to protection of migratory species, namely birds. Also a quick look into Hungarian and Austrian environmental legislation is provided regarding the geographical position of the parks where the case study was carried out. Multilateral legal documents looked into this chapter include Convention on Biological Diversity, Bern Convention, Convention on the Conservation of Migratory Species of Wild Animals, African Eurasian Waterbird Agreement, Convention on the Protection and Use of Transboundary Watercourses and International Lakes and EU Birds Directive.

In chapter 'Transboundary cooperation concerning bird migration between Case Fertő-Hanság National Park in Hungary and Neusiedlersee-Seewinkel Nationalpark in Austria' overlook of the parks is given. In depth description of different geographical and biological aspects is given. Namely, geography, hydrogeology and geology is analyzed. Also noted down climatic characteristics of the parks; flora and fauna are throughly described. Some insights from experts and from my own experience are also provided alongside with some photos.

In chapter 'Summary of the main findings' main going on projects in Fertő-Hanság National Park (FHNP) and Neusiedlersee-Seewinkel Nationalpark (NSNP) are stated and analyzed. Historical perspective and future plans concerning cooperation are also presented. In this chapter obstacles to the development of bilateral cooperation between FHNP and NSNP and problems in these parks are also discussed. In chapter 'Discussion of results' cogitations on topic is the cooperation effective and how it could be improved are included. Also an option to evolution of FHNP and NSNP from cooperation to unification is analyzed.

2. Methodology

Transboundary cooperation is one of the key factors in the field of bird migration, involving not only ecological problems but also encompassing both political and economic dimensions. The question is whether the cooperation is effective enough. The major aim of this work is to determine how effectively international cooperation helps to protect migratory species of birds. There was no research which was assessing cooperation between Fertő-Hanság National Park in Hungary and Neusiedlersee-Seewinkel Nationalpark in Austria. So in this thesis work I would try to identify "successes" and "failures" of international cooperation in this case on the base of literature review, secondary data, questionnaires and interviews.

In this work qualitative methods were used to obtain the results. To get information and relevant data, first, literature review was done using books, journal and other sources from CEU library in Budapest (Hungary) as well as in Vernadsky and Maksymovych libraries in Kyiv (Ukraine). Later the literature review was extended using literature from FHNP and NSNP. In FHNP and NSNP authorities and selected key experts were interviewed. Interviews with the authorities were formal and with the experts the same set of questions was used (See Appendix I) but the interviews were in this case more informal, longer and more flexible so there was a possibility to ask emerging questions and clarify some uncertain moments.

2.1 Interviewing experts

In NSNP one authority (manager) and one key expert (biologist) were interviewed. In FHNP six people were interviewed: one authority (chief manager) and five selected key experts, including specialists in nature conservation, tourism, forestry, environmental education and ornithology. First in Budapest it was decided that Attila Fersch in FHNP and Alois Lang in NSNP should be interviewed. These persons were selected because they are knowledgeable in the studied area, leaders of new projects' implementation and conduct of on going ones and their personal collaboration is an important factor of successful protection of migratory birds by the two national parks.

For the interviewing a predefined set of open questions was developed. But some itemizing and related questions emerged in the course of the conversation. Preset questions can be seen in Appendix I. Also it was decided to interview biologists/ecologists and in ideal ornithologists in FHNP/NSNP as they are familiar with the biological aspects of on going projects, know the situation from inside, have big working experience and they are knowledgeable in their field and know last trends in the current migratory birds' research. In NSNP Prof., Dr. Alois Herzig who is the chief officer of the Biological Station Neusiedler See was interviewed. In FHNP an ornithologist Attila Pellinger who is at the same time head of science department and biologist Krisztina Mészáros who works as a nature conservation officer were interviewed.

2.2 Archival research and literature review

The archival research was made based on secondary data obtained from Fertő-Hanság National Park and Neusiedlersee-Seewinkel Nationalpark. The aim was to gain baseline information about the parks and give their comparative characteristics. The extended results are given in the chapter three 'Literature review', in the subchapter 3.3 'Transboundary cooperation concerning bird migration between Case Fertő-Hanság National Park in Hungary and Neusiedlersee-Seewinkel Nationalpark in Austria'. This subchapter is based not only on archival research but also on published books and other materials. Literature review was prepared, using books and electronical documents in CEU library as well as using published literature and other sources from Maksymovych Scientific Library of the Taras Shevchenko Kyiv National University and Vernadsky National Library of Ukraine (Kyiv).

3. Literature review

This literature review was prepared, using books and electronic documents in CEU library as well as using published literature and other sources from Maksymovych Scientific Library of the Taras Shevchenko Kyiv National University and Vernadsky National Library of Ukraine (Kyiv). Concerning the nature of the thesis – assessment of cooperation of the two national parks – the relevant materials on bird migration collaboration activities were also collected in the both protected areas (Fertő-Hanság National Park in Hungary and Neusiedlersee-Seewinkel Nationalpark in Austria). See *App. VIII* for the map of FHNP and NSNP regions.

This literature review consists of three information blocks closely logically connected to each other: 1) Transboundary cooperation: difficulties and opportunities; 2) Legal aspects : protecting migratory species; 3) Transboundary cooperation concerning bird migration, case study of the cooperation between Fertő-Hanság National Park in Hungary and Neusiedlersee-Seewinkel Nationalpark in Austria

3.1 Transboundary cooperation: difficulties and opportunities

Boundaries of countries divide and detach from one another not only nations but also can create obstacles for animal migration. In order to protect migratory species effectively, especially threatened and endangered ones, transboundary cooperation is needed to be in place. Even if two neighbouring countries each make its own efforts to conserve some migratory species, not coordinated actions would be much less effective as some measures would be missing and some unnecessary duplicating one another. Especially international cooperation is topical problem in Europe. There are several reasons for this, first, on a relatively small comparing to the other continents territory in Europe there is an outstanding number of independent states, second, in Europe's nature there are great variations, it includes different climate zones, vegetation, soil types etc. And the third reason is that Eastern and Central European countries were more or less separated from Western European ones because of the Iron Curtain (1947-1989) and other historic realities, mainly, USSR and USA competition in the atmosphere of the Cold War and enclosure of the two nations. So now these countries are establishing relationship including nature conservation of the border areas especially intensively.

3.1.1 Boundary: an obstacle to cooperation?

'Frontier' is from Latin word '*frons*', meaning 'forehead', so its origin is purely anthropocentric. Important contribution to the development and usage of this terminology was made by Turner, Frederic Jackson who introduced this word towards American history describing the line where 'savagery and civilization' meets. Word 'frontier' is ambivalent in its nature, because it can both mean periphery regions with low living standards as well as it can refer to pioneer, advancing region. (Rösler and Wendl 1999). In the 17th century word 'frontier' meant a border of a kingdom which faces an enemy when wants to subdue it (Éger and Langer 1996).

Sometimes international cooperation occurs even in the absence of borders. Young (1993) gives examples of Arctic shipping, deep seabed mining and marine fisheries. In the case when there are no boundaries of single countries but states compete for resources i.e. stocks of ocean fish, sea birds, marine mammals and other oceanic resources there are different possibilities for the solution. First, there can be

agreed to be 'open-to-entry' usage when the access to a resource is unrestricted and open to all (Young 1993).

This is a simple solution but it has threat of 'tragedy of commons' when resources are exploited without limits, not cared about and can be quickly become polluted or/and depleted. Young (1993) also gives the second possibility: some kind of supranational agreements where a legislative body or institution is created to manage the resource, incorporating representatives from different interested states. In real world there are also some hybrids between first and second alternatives.

Frontiers and other boundaries can be studied from different prospective, including sociological, historical and anthropological ones, they even include philosophical meanings. Frontiers are dynamic units that are varying in time and space (Éger and Langer 1996). Frontiers can not be stable because if nations are divided on the basis of religion, culture, language, land management use type, cuisine etc, each division would lead to another frontier type that would rarely coincide, so there is a dynamic stability, changing compromise concerning borders.

Sometimes borders can change practically overnight: alienated countries become united (Germany) and united countries become alienated (Russia and the Baltic countries) like in case when the Iron Curtain fell in 1989 (Rösler and Wendl 1999). Such changes may seen illogic and strange but only if a historical context is not known, because these changes were maturing a long time slowly and the sudden change of the situation was just a tipping point. This was the case concerning Hungary and Austria when countries formally from different political camps in a short period of time became good neighbours and partners. International collaboration including in the field of nature conservation was strengthen with accession Hungary in EU in 2004.

But when borderlines are perceived as constant it is a good sign because their existence should guarantee security and safety. On the other hand borders divide

nations reducing contacts between them. So Éger and Langer (1996) highlight the ambivalence of any border: its presence should guard but it can confine at the same time, its absence can bring the feeling of freedom but also can scare. They also make conclusion that a frontier is a powerful device for national identity formation as it is a mental tool to make difference between 'us' and 'them'.

Borderlands as would be discussed further usually are countries' areas with lower, comparing to a state' average, living standards and poorer infrastructure, these regions are often perceived as distant, somewhat wild and underdeveloped (Éger and Langer 1996). Yet there is a room for 'hybridization', which means that in these regions two or more separate cultures meet, exchange information and form another regionalcultural type enriched with these culture's entries and but unique (Rösler and Wendl 1999).

Transboundary cooperation can bring benefits for both (each) participant but especially fruitful it is usually for borderlands. Such cooperation according to Pavliuk (1999) can enhance countries' safety and stability; reduce historical burden of mutual fear and anger; promote intensification of trade and overall prosperity. In this way peripheral regions can obtain necessary attention and funds for future development from both (or each, if more than two players) neighbouring countries. Subregional cooperation is usually a positive as may help also to dilute economic inequalities, strength democracy and promote trust (Pavliuk 1999).

But there are powerful limitations to the transboundary cooperation. Reasons can vary, it is often the extreme difference of the regions that creates (sometimes insuperable) obstacles to cooperation (Bjurner 1999). It also can be the wrong implementation because of the poor understanding of the cooperative principles. First, it is wrong to transfer directly one model of successful cooperation to the different region,

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as each one is unique. So models, even if they are transferred on a small geographical scale, need to be adjusted to the particular temporal and spatial realities.

Secondly, local communities should have a voice in the implementation of transboundary cooperation in their region. Local people should have right to ban, modify and create terms of the transregional projects as it is stated in Aarhus Convention (1998).

Also a serious obstacle to the international cooperation can a be grave economic difference between bordering regions or a deep-rooted cultural one that can mean mutual distrust and hatred. So it is easier to cooperate for Sweden and Norway because of similar economic level than Germany and Poland. Cultural (religion) conflict as an obstacle to cooperation can be observed in Israel-Palestinian conflict. Often economic and cultural differences enhance each other, existing together i.e. Russian – Finland or American – Cuban cooperation.

The first general obstacle – level of the economic development – can be usually relatively easy overcome in the case of environmental cooperation because this type of cooperation is not about monetary benefits primarily. Moreover, successful environmental cooperation can lead to other forms of cooperation, like economic or social, enhancing relationship between countries. But the second one, cultural, can not so easily be overcome because environmental cooperation needs good will and altruistic feelings which hardly can be found in the atmosphere of mutual distrust and hatred.

Environmental cooperation as any other type of International Relations (IR) was mainly developing in the three strands of thoughts, connected to each other and now they are mainstream theoretical framework for IR:

- Realism
- Neorealism
- Neoliberal institutionalism (Kütting 2000).

Realism in IR, based primarily on works of Hobbes, Machiavelli and Morgenthau, was the first to be developed. Its philosophy is rational, pessimistic in view of human nature, it highlights political dimension in the human society where actors are competing for power, and it is narrowed in the sense of IR to national interests (Kütting 2000). Neorealism is a more elaborated form of realism but it as well as realism states that countries are the main actors and the system as a whole is unstable and changing, still there is more room for cooperation under such theory but it would be only for a short period of time and mainly self-interest based.

Environmental cooperation is explained by this approach either using 'hegemonic stability' concept which means that there is a leading country that ensures the effectiveness of such cooperation (EU, USSR, USA etc.) or using 'game theoretical' concept which explains how units (countries) cooperate under anarchic circumstances (Kütting 2000).

Neoliberal institutionalism (NI) in IR derives from approaches of Kant and Grot, more modern theorists are Levy, Keohane and Young. NI became especially popular since the beginning of 1990s. NI incorporates legal framework and explains well transboundary mutual dependence of different states and enhancement of economic and regional level of integrity in borderlands.

All these concepts (realism, neorealism, NI) explain some processes well and other – poorly, thus they continue to evolve. All these three theories fail to explain well environmental cooperation or explain it one-sided, as environmental cooperation is based neither on national or power interests but rather on humanist and altruistic platform which all these concepts fail to explain fully (Kütting 2000).

As Pavliuk (1999) states in IR, including the field of environmental protection, EU enlargement was (still is, but probably EU would not enlarge anymore in the near future) a powerful incentive for transboundary cooperation between current at that time and would-be EU members. Such cooperation was usually beneficial for both parties. There are also cooperation programs between EU and its neighbours i.e. Ukraine in different fields including economy and environment.

But Clément (1999) believes that still in many south, central and eastern European countries there are grave problems with transboundary cooperation and often it is not effective enough. The reasons are that structural economic changes are slow, there is lack of economic incentives for such types of cooperation, little support and attention is given to these problems from central governments as other (GDP, economic) problems are of higher priority for these countries in transition and, lastly, there is little practical experience in these countries for such type of activity so mistakes in implementation occur quite often.

3.1.2 Measuring effectiveness of IR, including environmental one

For Young (1993) a successful International Relations (IR) are when institutions (Committees of Parties, legislative bodies etc.) carrying them out are effective. An effective institution for Young is the one that makes all the involved stakeholders to behave somewhat differently comparing to the situation if this institution does not exist or if there is a different kind of institution which would be less effective and this leads to the situation where environment is better protected comparing to the case if such an institution is not in place.

There are two different approaches to measuring effectiveness: a) critical theory and b) problem solving one. Critical theory does not take institutions and social

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relationships as given and evaluates the action framework. Problem-solving theory on the contrary accepts institutions and social relationships as given and inside this framework it tries to resolve political problems in the first place, trying to achieve consensus between political power and social institutes, seeking to regulate efficiently pointed sources of trouble (Kütting 2000).

There are different schools how to assess effectiveness of transboundary cooperation. Two major are Norwegian and USA's one. In Norway main theorists are Underdal, Andresen and Wettestad (Kütting 2000). Two latter scholars developed popular set of indicators based on Underdal's works to measure effectiveness of International Relations (IR) including environmental IR. The main indicators are:

- The accomplishment of institutional aims which were previously defined by the member countries.
- The degree of connection between advices given by professionals and real decisions that are taken.
- The rate of actual improvement, comparing the state of environment to the 'pre-institutional level', meaning what would the nature state without this particular institution (how well the institution influenced on nature).

So both environmental and institutional sets of criteria are recognized. Andresen and Wettestad differentiate between what had been agreed to do and what was achieved as the result. Norwegian school is quite limited by narrow methodological and theoretical approaches but it gave a solid base to other schools i.e. American school used some of its criteria and indicators, enhancing, altering and improving them and Norwegian school continues to develop (Kütting 2000).

American school is by now the most developed in assessing IR effectiveness. The major theorists in American school (USA) are Young, Levy, Zürn, Haas and Keohane. Young highlights institutional criteria, using classical 'problem-solving theory';

environmental criteria have only indirect influence on effectiveness. Young developed list of popular factors that consist of into two groups:

- Exogenous : they are about social atmosphere where the regime performs
- <u>Endogenous</u>: they are about characteristics of the regime itself, i.e. transparency, ease of transformation, social mechanisms, distribution and level of decisionmaking etc (Young 1993).

Zürn, Levy and Young developed 3 dimensions concerning consequences of any regime:

- Indirect vs direct effects: is measured by the length of connection between regime and individual (institution) behaviour as indirect effects have long chains of connection while direct have shorter ones.
- <u>External vs. internal</u>: results of regime's actions outside and inside the area of its sovereignty / control.
- <u>Positive vs. negative</u>: whether the results of regime's actions in the defined field are more positive or negative or which actions are successful and which are not (Kütting 2000).

Keohane, Levy and Haas developed a theory of '3 Cs' that are initial conditions for the effective IR and institutions (conventions, legislative bodies etc). They are: a) capacity, b) contractual environment and c) concern. Authors also differentiate between initial conditions endo- and exogenous factors.

On the whole, American school achieved considerable success in the field of measuring IR effectiveness but it still has a lot of problems which are needed to be resolved in future: certain contradictions, vagueness and ambiguity, self-imposed methodological limitations that narrow the understanding and implementing the theories (Kütting 2000).

3.1.3 International cooperation and environmental protection

IUCN (2009) gives a definition to a transboundary protected area (TBPA) as an area of land and/or sea which occupies the territory, belonging to two or more countries, sub-national units as regions and provinces, autonomous areas and territories beyond the control of national jurisdiction or/and sovereignty, which essential parts are important and designed for the natural protection and biological diversity's maintenance, as well as of preservation of associated cultural resources.

Such transboundary protected areas are managed together by the stakeholders using legislative tools and other effective means. There are 227 registered transboundary protected areas now; many of them are situated in Europe (See Picture 1) so there transboundary cooperation is especially important. The area in Europe covered by TBPA – 4 per cent of all the TBPA by square km – is relatively small comparing to the worldwide figures, because Europe is not that big itself (Lysenko *et al.* 2007). List of territory occupied by such areas in different world regions (continents and more) can be seen in *Table 3* and *Figure 3* in *App. II.*

Transboundary protected areas may not only help to protect biodiversity, natural resources and cultural heritage but also promote peace. Ali and Marton-Lafevre (2007) show that the establishment of 'peace parks' which are also often referred to as Transfrontier Conservation Areas (TFCAs) successfully fulfill this mission. First the movement started in Southern Africa which is the most developed region in the sense of TFCAs. IUCN started to promote the idea close to the peace parks' one in 1980s but the first peace park was established because of the will of Anton Rupert, the President of South African WWF in September 1991 (PPF. Origins. 2009).

Nelson Mandela is also in favour of idea of peace parks. He said:

"I know of no political movement, no philosophy, no ideology, which does not agree with the peace parks concept as we see it going into fruition today. It is a concept that can be embraced by all.

In a world beset by conflicts and division, peace is one of the cornerstones of the future. Peace parks are a building block in this process, not only in our region, but potentially in the entire world." (PPF.Foundation.2009)

Also peace parks are developing in different parts of the world though their content, aims and visions can differ slightly. Ali and Marton-Lafevre (2007) give example of International Peace Park 'W' in Western Africa, starting peace park in Indochina 'Emerald Triangle' for forest conservation, starting peace park along USA – Mexico border, peace park on the border of Liberia and Russian-Japanese peace park situated on the Kuril Islands to protect cranes. There are also proposals for other peace parks that may help both to preserve biodiversity and restore peace in the region: Kashmir, Antarctic region, Korea and others (Ali and Marton-Lafevre, 2007).



Picture 1. Transboundary protected areas worldwide

(Source: UNEP-WCMC, 2007)

Transboundary cooperation is important because biological diversity in the world continues to diminish threatening humanity's stability and security. Europe is not an exception, on the contrary, it is highly effected because of 5 000 years of intensive growing human impact and high human density, so there is an urgent need for action (Bellamy 1994). One of such actions that would lead to nature protection problems' solutions is European Conservation Awards which are given by the Conservation Foundation and sponsored by Ford Motors Company. Another good promising project is *Network 21* that is now being worked on in Europe. According to Bellamy (1994) not only central government but also NGOs, local groups, business companies and just common citizens have power to open 'windows of hope'. Furze (1996) also states that managers of protected areas should be given a word because they know the situation inside out in their parks, reserves etc.

The traditional concept of protected areas including transboundary ones was excluding local people and posing restrictions on resources use in the areas that led to land degradation and social tensions. Now new concepts are being developed which recognize that most of the landscapes are not 'pristine' and were formed by traditional land-use and such patterns to be preserved to maintain the area, so sustainable farming in such schemes is welcomed (Furze *et al.* 1996). Unfortunately in reality local development and nature protection rarely co-exist in harmony, benefiting both. Usually one aspect is a leading one (i.e. economic) and other (others) are complementary (ecological, social) and of less importance.

Transboundary agreements and conventions help to enhance cross-border cooperation and are intended to improve nature protection. Here I only mention them briefly as this topic is discussed deeper in the Chapter 3.2 'Legal aspects: protecting the migratory species'. The main framework document is Convention on Biological Diversity (CBD). Also important legal documents in the field of nature protection and especially of migratory birds are Bern Convention, Convention on the Conservation of Migratory Species of Wild Animals, African Eurasian Waterbird Agreement, Convention on the Protection and Use of Transboundary Watercourses and International Lakes, EU Birds

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Directive. Legislation of particular countries, in this case of Hungary and Austria, is also important.

Great percentage of the transboundary managed nature protection areas are obviously situated in Europe and large part of them is in CEE countries. So relatively new initiatives, like the Emerald Network and Natura 2000, can be crucial for the effective cross-border cooperation. Now they are successful programs, i.e. the Emerald Network helps to make difference in former Eastern block countries (Council of Europe 2009). All the multilateral nature protection agreements are connected to each other and new ones are built on the basis of the previous ones, enhancing and developing them.

Another opportunity for effective actions in the field of nature protection is European Ecological Network (EECONET). There are many activities that go on under the framework of EECONET. IUCN is implementing EECONET in CIS region, mainly in Eastern Europe (Phillips 1994). Private farmers in Ireland are widely taking part in voluntary schemes that are based on EECONET principles (O'Gorman 1994). Also the 'EECONET Action Fund' was created by World Wide Fund for Nature (WWF) and European Natural Heritage Fund (ENHF) together to promote European ecological network creation, maintenance and improvement (Martin 1994).

Bellamy (1994) believes that now in Europe there is "Green Renaissance" as the awareness has risen and many people even work as volunteers to promote ecological activities including transboundary cooperation. But he also notes than in Commonwealth of Independent States (CIS) these activities are still inadequately weak. Zinke (1994) worries that ecological cooperation between EU and CIS may not be so efficient because of the two reasons, firstly, political instability in CIS and, secondly, rapid economic development in these countries including border areas which were relatively economically underdeveloped also because of strong military presence that

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excluded other types of land use. Such development in the former Eastern block countries' borderlands would almost certainly bring harm to nature as it might not be sustainable enough.

One of the solutions can be credits to the former Eastern block countries to borderlands by EU countries to establish protection areas there or make some environmental measures. It is a win-win situation as Eastern countries to some extend take back money which they could have gained by intensive economic development and all the countries win because they preserve common European environmental heritage (Zinke 1994). Zupancic-Vicar (1994) adds that reprivatization in Eastern and Central Europe, namely in Slovenia poses a threat to environmental protection as agriculture land and forests which used to be owned by the state, now are given to private ownership. She claims that some lands should stay in public ownership to be accessible for general public and new legislation is to be designed.

Zinke (1994) promotes the idea of 'Ecological Bricks' for the united Europe that is a network of borderline areas which aim is to promote sustainable use of resources and ensure adequate conservation of regional flora and fauna using traditional knowledge and land use types. Such network already exists, also not all the European borderland have joined it so far and some countries like Poland take much more active part than others like Romania. In order for international cooperation in the field of nature protection to be successful, it should also include sustainable land use and environmental education.

3.1.4 International cooperation in the field of bird species protection

Birds are also facing loss of many species and lowing population trends for other species because of habitat destruction, ecosystems' pollution etc. There are many initiatives and organizations whose primary goal or one of the goals is to reverse this trend, i.e. British Trust for Ornithology. In a few cases it was successful attempt but unfortunately not in the majority of cases, so this leads to a conclusion that the new advanced approach to biodiversity conservation is needed, the key element in it is transboundary cooperation (Imboden 1994). In ecosystems everything is connected so improvement of one element, in our case, enhancing birds' protection, can lead to better conservation of other related species and ecosystem as a whole unit (Tucker 1994).

In Europe there is reliable data about many bird species over long period of time, often a few decades because of amateur and scientific interest and studies in this field (Imboden 1994). BirdLife International (BLI) is a powerful organization concerning birds that collects data about them, evaluates population trends and threats to their habitats. BLI also identify threatened bird species, making a good theoretical basis for future scientific research and they also promote rising public awareness. BLI takes approach based on bird species identification, in this way it narrowed approach but it is an effective practical one when funds and human resources are limited (Tucker 1994). BLI not only work in the theoretical field but also in practical one, taking part in relevant to them nature conservation projects.

Some bird species are good bioindicators. As many species of birds are migrating on smaller or bigger distances, setting up a pan-European ecological network would be especially beneficial for them. Actually, not so much space is needed (see Figure 1), because key ecosystems that are most important for endangered or threatened bird species occupy not such a big area but to obtain sustainable result, both crucial sites and other broader environment has to be protected (Tucker 1994).



Figure 1. Comparison between area of land occupied and conservation goals Source of data: Tucker 1994

There is an alarming trend concerning bird population. 16 925 bird species are critically endangered (CE), endangered (E) or vulnerable (V) out of 44 077 species assessed. In Europe 769 bird species out of 2206 registered or approx. 35 per cent out of all European species are critically CR, EN or VU (IUCN 2009). European CR, EN and VU bird species compose only about five per cent of world CR, EN and VU bird species, but the situation is serious as 43 per cent of European bird species show steady decline in population size and over 70 per cent of CR, EN and VU European bird species are

fast, slowly declining or their population is critically small but it is not increasing (IUCN 2009; Imboden 1994; Tucker 1994).

There are already 804 registered extinct bird species worldwide, 26 of them were from Europe and 65 extinct in the wild, 2 of which are in Europe (IUCN 2009). The fastest rate of decline (See Figure 2) has lowland farmland, wetland and woodland species including bird species as territory of such ecosystems also steadily declines. So out of lowland farmland species 92% are CR, EN or VU; out of wetland species – 74% and out of woodland – 58% (Tucker 1994).

Especially serious is the situation with farmland species because more and more lands are taken away from agriculture as with new technologies including 'green revolution' possibilities and recent controversial GMO solutions much more food can be grown on much smaller territory. To benefit humanity and species themselves conservation biologists, ecologists, politicians, common citizens and all the other stakeholders, ideally all the people should act together to prevent further extinction, socalled concept of 'zero extinction'. But, unfortunately, probably much more bird species would pass away till such natural equilibrium would be reached.



Figure 2. Usage of different types of habitats in Europe by CR, EN and VU species in per cent.

Source of data: Tucker 1994.

Imboden (1994) claims that major conservation failures in the field of bird protection occur because humanity treats only the symptoms of the problem but not the causes. For example, we put filters on power stations but to resolve some problems we have to go further and reduce energy consumption. Also our society overrelies on technological methods which are not always the answer. For example, such methods helped to repopulate the area with white-tailed sea eagle, but failed to protect farmland bird species as for this purpose changes in the agriculture concept are needed and only technology is not enough.

In order to protect bird species as well as others more efficiently Tucker (1994) proposes to prioritize important habitats for conservation and develop EECONET in six stages: 1) identify CR, EN and VU species where species with the declining populations can serve as bioindicators, 2) identify key sites, 3) identify gaps in nature protection networks, 4) add broader protection areas, 5) develop and implement management strategy while having adequate land-use legislation and 6) continuous monitoring of areas and species to detect progress/failures. All these actions have to be taken not by isolated governments but together in the spirit of cooperation (Tucker 1994).

3.2 Legal aspects: protecting the migratory species

Today, many routes of bird migration change either slightly or dramatically due to climate change. International ecological conventions have several distinctive features comparing to the other fields of international agreements. First, the more participants, the better is the result, so there are efforts to include as many Parties as possible. The
second peculiarity results from the first, the fact is that many agreements are quite weak or they could be much stronger. The reason is that usually the Party that breaks the agreement is excluded from the agreement, but in case of the ecological agreements this does not work as the main idea is to cooperate and include different countries.

The main legal documents concerning migratory birds that would be looked at in this chapter are: Convention on Biological Diversity (CBD), Bern Convention, Convention on the Conservation of Migratory Species of Wild Animals (CMS), African Eurasian Waterbird Agreement (AEWA - Africa), Convention on the Protection and Use of Transboundary Watercourses and International Lakes (CPUTWIL) and EU Birds Directive. As the case study in this work is Transboundary cooperation concerning bird migration between Case Fertő-Hanság National Park in Hungary and Neusiedlersee-Seewinkel Nationalpark in Austria, Hungarian and Austrian legislation in the field of migratory birds protection is briefly examined.

3.2.1 CBD – general coverage of migratory issues

Convention on Biological Diversity (CBD) is a framework document. Usually CBD used to look at all the legal issues concerning bird migratory species first because it is kind of a general agreement that is used as framework for further research and decisions (Burhenne-Guilmin et al. 1994). CBD was adopted in June 1992 in Rio de Janeiro (Brazil) and entered into force on the 29th of December 1993. Now CBD has 192 Parties. CBD aims at a) conservation of biodiversity, b) fair use of benefits from genetic sources and c) sustainable use of biodiversity's resources (CBD 2009).

Because of c) issue, CBD is regarded as the first legal document where principles of sustainability were declared. CBD encourages different activities, including effecting information sharing, international cooperation of scholars all over the world,

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environmental education, respecting traditional knowledge, sustainable use of resources, access to newest technologies and Environmental Impact Assessment (EIA).

Under CBD there are many other projects. Gran Canaria Declaration Calling for a Global Plant Conservation Strategy is an important conservation document which was adopted in 2002 (April). Also aiming at 'zero extinction' 16 point plan of slowing down extinction was adopted, the program is designed to year 2010 ('2010 Biodiversity Target'). Due to climate change but also primary to human activities, invasive species of birds are now a severe problem in many countries. Under CBD, invasive species and climate change are currently also hot topics (CBD 2009). Also under CBD International Day for Biological Diversity was established that is celebrated on the 22nd of May. See *Picture 3.*

3.2.2 Bern Convention

Bern Convention also known as Berne Convention and Convention on the Conservation of European Wildlife and Natural Habitats. It was signed in Bern (Switzerland) on the 19th of September, 1972 and it came into force on the 1st of June, 1982. Bern signatories Parties are EU countries and CE countries excluding Russia and San Marino (CE 2009).

Primarily aims of Bern convention are:

Conservation of flora and fauna and preservation of natural habitats where they exist

Monitoring of CR, EN and VU species

International cooperation in scientific and technical fields

Legal assistance for signatory states to ensure correct implementation of Bern Convention

In Bern Convention there are four Appendixes. In App. I there are strictly protected species of flora; in Appendixes II and III – of fauna (App. II); App. III – protected species of fauna; App. IV – banned methods to exploit animals capture, here described methods of capture and killing of animals that are not acceptable. In Appendixes there are many CR/EN/VU bird species as well as amphibian and reptile ones. Under the auspice of Bern Convention Emerald Network (See also Chapter 3.1) was created in 1998, Emerald Network operates on the territory of signatory Parties of Bern Convention. Bern Convention is also closely related to Nature 2000 initiative, they have joined activities (CE 2009).

3.3 Convention on the Conservation of Migratory Species of Wild Animals, CMS

Also known as Bonn Convention. It was signed in June 1979 in Bonn (Germany). CMS entered into force in 1983. Its goal is protection of all the migratory species including those that live on ground and in the sea. UNEP helped to establish this cooperation. Till present time number of members of CMS has increased and now includes 110 countries, including European, Oceanian, Asian, American and African states. See App. XI for the map of parties (Chester 2006).

In CMS there are two Appendixes. In App. I there are highly endangered species that parties have to strictly protect them. Such protection measures have to include protections of animals themselves and their habitats; factors that hinder migration have to be mitigated. In App. II there are species which would have big benefits from multilateral cooperation. CMS in this case acts as an umbrella agreement. Species, listed in App. II, need to be included into regional bi- or multilateral agreements (CMS 1979).

CMS as mentioned before is actually a framework document. Under it there are less legally binding documents - Memoranda of Understanding (MoU), and more – Agreements. One of the hot issues today is gorillas' problem. Year 2009 is gorillas' year, CMS members also organized education event 'Gorillas on Thin Ice'. Some of the MoU's goals are to protect Siberian cranes, aquatic warblers, birds of prey and others. Some of the Agreements aim to protect African-Eurasian migratory birds (see Chapter 3.4), petrels, albatrosses and others (Chester 2006; CMS 1979).

To make CMS work there are different institutions created. Scientific Council includes scholars representing different countries that advice on scientific questions. At Conference of Parties (COP) decisions about further actions are made. Administrative issues are solved by Secretariat. Administrative and policy support is given by the Standing Committee (CMS 1979).

3.2.4 African Eurasian Waterbird Agreement (AEWA)

AEWA was concluded on 16 June 1995 in the Hague (Netherlands). It entered into force on 1 November 1999. AEWA is run under CMS and it is the biggest agreement under CMS so far and one of the most successful. 118 countries are parties for AEWA. There are countries from Europe and Africa naturally but also from Middle East and Canada. See App. XII for the map of parties' location. AEWA aims to conserve 255 waterbirds' species including but not limited to herons, storks, terns, ibises, geese and also penguins of South Africa (AEWA 2009).

Action Plan is a document adopted by AEWA to encourage different conservation activities among the Parties, it includes comprehensive advices on implementation of AEWA, monitoring of species population trends and education. AEWA collaborates closely with BirdLife International and Wetlands International. In 2003 African-Eurasian

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Flyway Project was approved and it became active in 06/2006, this project aims to enhance successful exchange of monitoring and research information between countries, improve overall communication of migrating birds' data (UNEP&CMS 2006).

At the fourth Meeting of the Parties (MOP) that was held in Antananarivo (Madagascar) on the 15th to 19th of September 2008 African-Eurasian Migratory Waterbirds (AEWA) Parties presented new studies on the effects of climate change on migratory waterbird (AEWA Committee 2008). The 4th MOP At the fourth Meeting of the Parties of AEWA Parties also agreed on measures towards introduced non-native waterbirds. Other hot topics included heated discussions on spread of highly pathogenic avian influenza (H5N1) and presentation of best conservation practices from all over the world (AEWA-4 2008).

3.2.5 Convention on the Protection and Use of Transboundary Watercourses and International Lakes (CPUTWIL)

The Convention on the Protection and Use of Transboundary Watercourses and International Lakes known Water Convention too is also important for this study because birds use specific water bodies including rivers and lakes as stops on their way. For example, studied parks FHNP and NSNP, where the Lake Fertő (Neusiedlsee) is situated, are 'stepping stones' or places for birds' rest/feeding/breeding before further migration. Water Convention was signed in Helsinki (Finland) on the 17th of March 1992. Its aim is to improve international cooperation in the field of transboundary water management that includes waterbodies both ground- and surface water protection.

Important issue concerning this convention is signatory countries' obligations to mitigate, monitor and prevent pollution of waterbodies from different (both point and not)

sources. Parties under this convention oblige to exchange water related data, help each other in research, public education and construction of warning systems for early notifications in case of emergency. Water Convention is also a framework one, under its aegis Protocol on Civil Liability was signed on 21/05/'03 in Kyiv (Ukraine).

Also Protocol on Water and Health was signed on 17/06/'99 in London (GB) (UNECE 2009). There are four Appendixes in the Convention. App. 1 explains term 'best available technology'; App. 2 provides advices for efficient environmental practices; App. 3 provides different standards (minimal and desirable) for water quality in different cases and App. 4 gives rules for conflicts' solution between signatory parties (UNEP 1997).

This Convention is quite successful one. Under it there are many on going activities. In Bratislava (Slovakia), new Convention's International Water Assessment Centre has been recently opened (7/04/'09). Brochures, booklets and other written works are now being printed and distributed. Under the Convention assessment of waterbodies is an important point, such assessment was recently done for UNECE territory that includes assessment of thirty cross border lakes and 140 transboundary rivers (UNECE 2009; UNEP 1997).

Forth MoP was held in Bonn (Germany) from 20th to 22nd of November, 2006 where the center topic was flood prevention and new computer models concerning floods' possibility detection implementation. Water Convention Parties support World Water Day (22nd of March) which was first established in 1993. CPUTWIL is not only for Europe, it includes signatories from Central Asia as well. For example, recently a project was adopted between Kyrgyzstan and Kazakhstan concerning transboundary Talas and Chu River (UNECE 2009).

3.2.6 The European Union Directive on the conservation of wild birds

The European Union Directive on the conservation of wild birds is also EU Birds Directive; it was signed by EU members in 1979 by 9 Parties. This Directive was the first in the field of environmental protection in European Union. It entered into force on the 6th of April, 1979. EU Birds Directive is an important legal document to protect wild birds; its aim is to preserve birds in particular and nature in broader sense for today and tomorrow, meaning future generations. In 05/'04 there was a decision adopted that EU Birds Directive became obligatory for all the EU members (BirdLife International 2009; Europa 2009).

EU Birds Directive is closely connected with Ramsar Convention, CBD, Bonn Convention and implementation of 'zero extinction' concept within the framework of Natura 2000 project. EU countries that participate in this Directive have to designate Specially Protected Areas (SPAs) for protected birds which since 1994 are included into Natura 2000 sites' network, implement management strategy adopted by Parties, finance SPAs (at least partly, partly it can be funded by EU), control hunting of vulnerable bird species, provide EIA of projects that can influence SPAs (BirdLife International 2009; Environment 2009).

There are five Appendixes in this Directive. Migrating and endangered bird species, for them SPAs are designated, are listed in App. 1. One of the aims of EU Birds Directive is sustainable hunting, species that are allowed to be hunted can be found in App. 2. Birds are not allowed to be hunted in periods of the back migration to the feeding places, nurturing of youngsters and breeding period. Non selective killing including massive one is strictly prohibited. List of banned killing methods is listed in App.4. Birds according to this Directive can not be captured, their nests can not be destroyed, their eggs can not be taken away and they can not be traded with exceptions presented in App. 3. Further research is needed to enhance theoretical basis for birds'

conservation, such species where there is lack of scientific knowledge are listed in App. 5 (Environment 2009).

3.2.7 Hungarian environmental legislation

Environmental legislation began to develop in early 1960's and its norms were connected to economic provisions. In 1971-1975 there were attempts to harmonize and enlarge existing legislation and national environmental body. These attempt resulted in 1976 in the adoption of Hungarian Environmental Act. Also such institutions as National Office of Nature Conservation and Environment and National Nature Conservation and Environmental Council were opened. Until the end of 1980s there were no major pieces of environmental legislation and the whole law branch became slightly obsolete. The end of 1980s became a turning point for understanding of hidden pollution prices, it became clear that common citizens are not properly protected against water, noise, air etc. pollution. So at this time began a new period of productive environmental legislation (Institute of Environmental Development 1990).

The Ministry of Environment and Water was established in Hungary in 1987, there was major restructuring in the beginning of 1990s. Since then structure of the Ministry and legislation changes rapidly and sometimes because of this there are problems with implementation. These changes were connected with Hungarian will to enter EU as well as OECD (Ministry of Environment and Water 2009).

The main primary and secondary environmental law documents in Hungary are:

- Arable Land Act, 1994 (law number: LV)
- Environmental Product Charges and Environmental Product Charges on Certain Products Act, 1995 (LVI)
- Environmental Protection Act, 1995

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- Act LIII of 1995 relating to General Rules of LVII of 1995 relating to Water Management
- Act XX of 1949 on the Constitution of the Republic of Hungary, Last amendment: 1995
- Act I of 1980 relating to Nuclear Energy, newest modification: 1987
- Act III of 1964 relating to Construction, newest modification: 1991
- Act XLVIII of 1993 relating to Mining, newest modification: 1993
- Act VII of 1961 relating to Forest Management and Hunting, newest modification: 1994

In Hungary there can be named two types of environmental legislation: primary and secondary one. Secondary focuses on economic regulations but there are provisions for environment protection, i.e. Arable Land Act. Primary legislation straightly focuses on environmental issues, like land, nature, air, soil etc. protection. It used to be not or loosely connected to each other and legislative harmonization took place in middle 1990s (Erdey and Karcza 2006; Lexadin 2009a).

3.2.8 Austrian environmental legislation

Main Austrian environmental legislation both direct and indirect includes following legal documents:

- Animal Protection Act
- Environmental Impact Assessment Act, 2000
- Federal Act No. 33/1998 on Trade of Wild Flora and Fauna
- Federal Act dated 27th November 1984 for comprehensive protection of the environment.
- Federal Law amending the Species Trade Act
- Austrian Electricity Management and Organisation Act, (ElWOG) (BGBI I 121/2000)
- Environment Management Act (Umweltmanagementgesetz BGBI 196/2001)

- Lebensmittelsicherheits- und Verbraucherschutzgesetz (LMSVG) 2006 (*Citizens'* Life and Security Protection Law)
- Umweltinformationsgesetzes (UIG) novelle, 2004 (*Public Access to Environmental Data Law*)
- Änderung des Tierschutzgesetzes, 2008 (Amendment to Animal Protection Act)

(Lexadin 2009b; Ermacora 2009).

Recent popular developments in Austrian environmental legislation include restriction of transition of heavy tracks through Austrian territory and restrictions against nuclear energy usage. Also Austria in EIWOG showed its commitment to promote renewables. By 2007 4% of energy used in Austria should have been produced from renewable sources and 8% of energy should have been produced on small scale hydro power stations (Ermacora 2009).

3.3. Transboundary cooperation concerning bird migration between Case Fertő-Hanság National Park in Hungary and Neusiedlersee-Seewinkel Nationalpark in Austria

Territory of FHNP is less than of NSNP but it has more core, strictly protected territories, than NSNP where there are a lot of buffer areas. FHNP is territorially and ecologically divided into several regions as well as NSNP. The joined park has eleven regions :

Regions one to six are situated in Hungary:

- 1. Lake Fertö
- 2. Szárhalom
- 3. Süd-Hanság (South Hanság)
- 4. Nord-Hanság (North Hanság)
- 5. Tóköz
- 6. Répce-Auen (Répce Valley)

Regions seven to eleven are situated in Austria:

- 7. Sandeck-Neudegg
- 8. Lange Lacke (Long lake)
- 9. Illmitz-Hölle
- 10. Zitzmannsdorfer Wieser (Zirtmanns village's meadows)
- 11. The Austrian part of Hanság

See App. VIII for the map of the regions. Main elements that have quite different fauna, flora and other characteristics are Fertö and Hanság as first is more like lake and second more like boggy/marshy area (DFHNP 1995; FHNPI 2003). There are

approximately sixty staff members in FHNP. The cooperation is going on mainly in tourism, land use and science: flora and fauna, especially in ornithology (Lázár pers. comm.).

Fertő-Hanság National Park in Hungary and Neusiedlersee-Seewinkel Nationalpark in Austria began to cooperate in 1988 as protected areas and were declared as one international unit in 1994. See Table 2 for the brief summary of these two parks and main types of joined activities.

Table 1. Comparison of Fertő-Hanság National Park in Hungary and Neusiedlersee-Seewinkel Nationalpark in Austria

Name/ criteria	Fertő-Hanság National Park in	Neusiedlersee-Seewinkel	
	Hungary	Nationalpark in Austria	
Year of establishment	1976 : declared a protected area	1992 : declared a national park	
	1991 : Lake Fertő became a		
	national park		
	1994 : Hanság territory is joined		
	to the park		
	1994 : national park was decla	ared as one international unit	
Main indicators	 System of labeling 		
of cooperation	✤ Common symbol		
	Staff meeting organized regularly together		
	 Joint plans of land management developed 		
Year when the			

cooperation

began	1988 : between the protected areas	
Area, ha	24 350	7 650
	30 000) in total
Land	State	Mostly private
ownership		
Main fields of	Tourism, land management, biodiversity	
cooperation		

(<u>Virókné</u> 2001)

3.3.1 Description of Fertő-Hanság National Park



In this chapter would be given a description of Fertő-Hanság National Park (FHNP) but actually many features are common between FHNP and Neusiedlersee-Seewinkel Nationalpark as they are neighbours. Fertő-Hanság National Park (NP) is one of

Picture 13. Emblem of FHNP.

(http://www.fertopart.hu/templates/v2.0/images/nemzeti_park_logo.jpg)

ten NPs in Hungary and it is relatively young park, which was created in 1991 (See Table 2) and is the 5th created in Hungary after Hortobágy National Park which was created in 1973, Kiskunság National Park – 1975, Bükk National Park – 1976 and Aggtelek National Park – 1985 (Vendégváró 2009). See *App. IV* for the map of the Hungarian NPs location.

Previously, when Hungary belonged to the eastern block countries, here was a military zone, customs and nobody was allowed to get near this territory and building/development of the area was strictly prohibited which was good for nature preservation. On the other hand, nobody was allowed to develop conservation activities in this military zone, so Austrian partner has an advantage that it started the work earlier (Lázár, Pellinger pers. comm.).

There are three zones of nature protection in Fertő-Hanság NP according to the IUCN requirements. Firstly, the core zone or a strictly protected area with minimal human disturbance. Secondly, the zone of traditional land use where cutting of reed, making of hay and grazing is allowed and welcomed. And, thirdly, buffer zone which also includes villages and where green tourism is flourishing (Vendégváró 2009).

3.3.1.1 Geography, geology and hydrography

Fertő-Hanság National Park (FHNP) is situated in the north-west of Hungary, in the region Western Transdanubia (See *App. V* for the map of Hungarian regions) or Nyugat-Dunántúl in Hungarian, in Györ-Moson-Sopron county (See *App. VI* for the map of Hungarian counties). FHNP is situated in the relatively plain area (See *App. VII* for the topographic map of Hungary) where elevetions reach maximum 100 meters, but usual elevation is only one – two meters. There are no major rivers nearby as Rába and Danube (Duna) are quite far away but they have profound influence on the lake and its environs. FHNP is situated near the city Sopron, in the vicinity of the western rainy slopes of Lővérek (FHNP 2009).

'Fertő' in old Hungarian language means 'marshy area, site with stagnant water' (Földvary 1988). The Lake Fertő is a saline one, its salinity index varies broadly in different measurement sites: the highest value measured in Kroisbach (Hungarian name

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Fertőrákos): 13,3 grams per liter and lowest one measured in Purbach (or Feketeváros) Eszterháza – 3,4 g/l (Földvary 1988). See Figure 4 for salinity variation.



Figure 4. Salinity variation in Lake Fertő at different measurement sites. Source of data: Földvary 1988.

Lake Fertő also has impressive area though it is shallow, average depth – 1 m, maximum depth recorded: six – seven meters, with extensive reeds growing around it (FHNP 2009; Földvary 1988). In the eastern part there are marshy areas and bogs, as well as steeps situated on the great plains (FHNP 2009). Sediments in the Lake Fertő are mainly dolomite clay-marls. In Kovačov region there were found important fossil collections which include rich variety of mollusks from Chattian and Aquitanian age, i.e. *Athleta telegdyi, Nonion commune, Nucula comta etc.* (Földvary 1988).

In Eurasia lake Fertő is the most western one that is alkaline and is changing its water level in the connection with the amount of rains (Virókné 2001). The Lake Fertő stretches approximately in the south north direction, its area is 309 km², but only 75 km² are Hungarian, the rest is Austrian territory, lake is 36 kilometers long, largest width is 15 km, smallest one – 6,5 km, length of the coastline is approximately 100 km; it is the

third lake by area in the Central Europe (FHNP 2009). But the Lake Fertő does not have stable boundaries and explicit banks, sometimes it dries out as it was in 1968 but than when there are rains it is full of water again. Banks of the lake in the north are higher and more distinct than those on the south which merge gradually with Hanság area (Földvary 1988).

Fertő area has sandy, partly eroded soils (Courage 2009). Soil type is 'flood' one, there is a range of different soils inside this type in the area. Swamp and meadow soils are most common ones. Meadow soils contain high percentage of humus but are fragile and not suitable for the traditional agriculture, but can be used as pastures because on them various grass types grow abundantly. Practically all the soils in the regions are acidic (with low content of lime) (Fürstand 1999). There are mainly salty soils around the lake. When the area was dried, some cultivation took place but these soils are mainly salty (from salty lake water) and not fertile so the crop was poor (Lázár pers. comm.).

Soil types depend on vicinity to a waterbody and character of flooding: its time and intensity. There is also small portion of forest soils and there are also more common swamp-forest soils (Fürstand 1999). From the beginning of the 18th century and till 1976 the lake had been drained as it was completely marshy area, receiving water from Danube (Duna), Rába, Rábca and a number of smaller rivers (FHNP 2009). Brook Vulka gives to Lake Fertő water with high hardness index: up to 80 mg per liter of Ca and 37 mg per liter of Mg (Földvary 1988).

In 1994 Hanság area was added to the NP founded in 1991 (Virókné 2001). 'Hany' means marshy area or bog. It is situated in the lowland, two – three m lower than nearby territories. It used to be a rich in biodiversity boggy area with scattered small lakes and islands, but in 1950s following the popular trend and acting under scientific consensus of USSR scholars the area was drained almost completely by youth in

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summer camps. But with water practically all the biodiversity has gone. Only small part of 'hany' remained because of underground water storage and is now strictly protected like Király lake, Fehér- and Barbacsi-lake (FHNP 2009).

Geologically FHNP's territory is a young one. When the ancient Pannon Sea began to retrieve, Duna, Rába and Rábca river began to fill up the territory with sand and gravels which now compose the region's bedrock till the depth of two - three meters. Then in Pliocene central part of the region continued to sink, filling up with fine sand, gravels and clay, that is why the surface in this area is quite plain with average elevation of one – two meters. Approximately 200 000 – 300 000 years ago the area of FHNP began to sink even quicker, so that alluvial sediments from adjacent rivers piled up quickly and separated this area, creating in this way system of marshy areas with occasional shallow lakes, the biggest one among them is Fertő, and small islands, the area as a whole was/is with diverse fauna and flora (Fürstand 1999).

FHNP is an area where two morphological structures meet. First is Little Hungarian Plain which is the west ending of the inside area of the Carpathian Basin. And the second morphological structure is east foothills of the Alpine mountains (Földvary 1988). Practically all the territory of Hungary as well as FHNP belongs to the region of the Danube (Duna) water catchments. Rivers Rába: flow of water 6,65 – 575 m³ per second and Rábca: 0,7 – 40 m³ play an important role in the water regime of FHNP. Near Györ they flow to the Danube. The region has close hydrologic connections inside it, there are many small brooks, channels and surface water is closely connected to the groundwater. Groundwater depth is changing with seasons and can be from one to five meters deep, but this is an average figure which alters according to the vicinity to the waterbodies (brooks, streams etc.). Water usually freely goes deeper to the level of 2-3 meters through bedrock (sand, gravel). Thus practically in all the soils minerals are

washed down to the zones of accumulation excluding peaty swamp soils as water is always present there (Fürstand 1999).

3.3.1.2 Climatic characteristics

The climate of the region is mostly like in the rest of Hungary but it has some distinctive features because of the influence of the Atlantic Ocean and mountain chains. On the whole, climate is semi continental with distinct four seasons and rapid transition between them. Generally, summers in the region are warm and sometimes even hot and winters are damp, cold, windy but with little snow and usually temperatures even in wintertime are above zero. Ádám and Marosi in 1975 characterized this climate as one with moderate temperatures and balanced precipitation rate and classified it as forest-steppe type of climate (Fallon and Bedford 2003; Fürstand 1999).

The area is lying on the verge not only of the two morphological structures but also, logically, on the crossing of the two climates: continental (more arid) and Atlantic (more humid) one. Mountains also influence on the climate type of the region: the Carpathian Mountains and Alps, so in total the climate here is semi arid. Strong wind often occur in the region so the air humidity is lower than average in Hungary. Usual direction of the winds is due to the outline of Danube's valley, so winds are mostly westnorth-west (W-N-W) ones (Fürstand 1999).

Precipitation rate is 550-600 mm per year (a little bit more than Hungarian average), major part of precipitation has form of rain and there are only few snowy days per year, annual balance of water is as high as 25-50 mm. It rains most in November, March and April (Fallon and Bedford 2003). Summers usually have little precipitation and sometimes there are droughts. Average temperature (per year) is 10.8 degrees Centigrade (like in the whole country), range of the temperatures here is about 22°C,

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that is much lower than in the most eastern parts of Hungary, this is due to closer location to the Atlantic ocean which 'averages' temperatures more (Fürstand 1999).

Spring usually starts in the mid April and autumn comes around the middle of October. There are usually only ten to fifteen really hot days per year which is considerably lower figure than in eastern, with more continental climate Hungary. The coldest month is January when the average temperature is -1°C and hottest month is August: +21°C. On average there are 2000 hours of sunshine per year (2209 – average for Hungary) which is very high number for Europe. Normally, 60-65% of sky occupied with clouds on average for the whole year as well as in the rest of the country (Porter and Prince 2007; Fürstand 1999).

3.3.1.3 Flora and fauna

The region is rich in biodiversity due to extensive agriculture and low inhabitants' density rate and due to protection in modern days. Especially rich is bird life, so here is a paradise for bird watching as well as other activities. The area is a marshy one with Small Hungarian Plain subregion of flora which located in Pannon flora county. On the whole it means steppe flora and fauna enriched with mountain and relict species (Fürstand 1999).

The main issue having influence on flora here is abundance of water, which does not come from rain. The Hungarian area of the Lake Fertő is almost completely covered with reeds, with few reed-free in the middle of the lake surface. Most common and successful associations concerning water species are reeds near/on the banks and reed grass in lake (open water). There is a lot of *Carex* or sedge on the lake banks as well as *Typha angustifolia* or bulrush. In FHNP on the reed free areas there are weed species (where water is very shallow or in marshy areas), *Potamogeton* or fennel-

leaved pondweed and *Utricularia* or bladderwort is also common. To the southeast of Fertő there are semi steppes and forests constituted of white oak mainly. Semi steppe region is hilly and extremely rich in grass and flower species (including 19 orchid species) more than 60 of which are protected. Some typical plants in this region are: *Cypripedium calceolus* or lady's slipper orchid, *Dictamnus albus* or burning bush, *Iris pumila* or dwarf iris and others (FHNP 2009; Fürstand 1999).

There is also a small (2 ha) area where glacier remnants grow on a foothill marshy land. There and nowhere else *Pinguicula vulgaris* or common butterwort grows, here one can find as well adder's-tongue fern and cottongrass. To the east of Fertő there are saline pastures, bogs and wet meadows. *Aster tripolium or* Michaelmas-daisy which tolerates high soil salinity, *Puccinellia limosa* or Fertő puccinellia and *Suadea pannonica* or sea blite grow here (FHNP 2009).

All the fauna species are closely connected to water. Fauna of the region is primarily rich in diverse waterbird species which are specially protected here. Bird watching is popular. Some birds live here permanently while for others the lake is an important stop in their migration. The fish fauna is very rich in FHNP. Also the area is known for its reptile and amphibian species (Virókné 2001; Melnychiuk 1999).

FHNP is an important site for animal's (including birds) breeding as well as it is an important assemblage point for birds during their migrations. Practically every middle European waterbird can be found here especially during the migratory period. One of the most spectacular species is great white egret (*Egretta alba*), population of which reached 700 pairs recently (about 150 in 2001 – (Virókné 2001), it is depicted on the FHNP's logo; also impressive are Graylag Goose (hundreds of pairs come here during their migration for breeding) and Purple Heron (*Ardea pupurea*) (FHNPI 2009). They are flagships for conservation in FHNP and many projects deal with them (see description of on going projects).

Common are nests of white storks (*Ciconia ciconia*) and black ones (*C. nigra*) but latter are less frequent. Harriers (*Circus aeruginosus, C. Cyanes* and *C. pygargus*), goshawks (*Acciputer gentilis*) and common buzzards (*Buteo buteo*) – birds of prey – also can be found in FHNP in large numbers. Not so frequently but still from time to time kite species (*Milvus migrans* and *M. milvus*), falcons (*Falco cherrug*) and eagles (*Aquila pomarina*) can be seen. Duck species are varied and common (*Aythia* and *Anas sp.*). In park nest many protected species of birds as *Acrocephalus, Porzana* and *Podiceps sp.* (Fürstand 1999). In 1989 the area became a Ramsar site as an important wetland area. So here there are many reed bed songbirds, like Eurasian reed warbler, Savi's warbler, great reed warbler, moustached warbler, bearded tit and bluethroat (FHNPI 2009; Barkhanov 2000).

Common fish species found in the region are knife (*Pelecul cultratus*), pike (*Esox lucius*), pike-pearch (*Lucioperca lucioperc*), gold coloured carp (*Cyprinus carpio*) and weather fish (*Misgurnus fossilis*) Fauna of invertebrates is rich as well. Butterflies from western part of Carpathian Basin migrate through FHNP. Invertebrates dead-head hawk (*Acherontia atropos*) and convolvulus hawk (*Herse convolvuli*) are often observed in large numbers in summer near flowerbeds in villages adjacened to FHNP. Such rare insect species as broadbordered bee hawk (*Haemorrhagia fuciformis*) with transparent wings and the largest Hungarian butterfly – large emperor (*Saturnia pyri*) can be found here (DFHNP 1995).

Soft and hard wood gallery forest surrounding some parts of lake is important for winter reptilian and amphibian hibernation. In FHNP typical are wart newt (*Triturus cristatus*), grass snake (*Natrix natrix*), fire-bellied toad (*Bombina bombina*), common toad (*Bufo bufo*), pool frog (*Rana lessonae*) and others. But many of these and not only these species migrate and road Sopron-Fertő poses a thereat of massive death from cars. To avoid this or at least to diminish the scale of these adverse effects, personnel

of FHNP put plastic stripes along some most important from migration point of view parts of the road. Such fences composed of stripes have to direct animals to 'frog-tunnels' under the road (DFHNP 1995).

3.3.2 Description of Neusiedlersee-Seewinkel Nationalpark (NSNP)

NSNP is situated in south-eastern part of Austria, in Approximately 80 per cent of the joined NP belongs to Austria, headquarters are in village Illmits, see P. 14. So in Austria territory of World Heritage area (buffer or transition zone) is bigger, but the core territory of the park, zone with strict protection, is smaller and divided into five parts.



The number of staff members is only slightly less than in FHNP as the financing is better. There are approximately fifty staff members in the Austrian part of the joined park, consisting of about 25 permanent workers and 25 freelancers (Lázár; Lang pers.

comm.).

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P.14. Headquarters of NSNP in Illmits

Nature, climate and hydrogeologic features have much on common with FHNP as they are close (adjacent) geographically and compose one NP (NA&L 2008). But NSNP has some distinct features, which would be discussed in this chapter.



Picture 14.



Picture 15.

Picture 14. Logo of NSNP (URL: http://www.nationalpark-neusiedlersee-seewinkel.at) Picture 15. Logo of World Heritage (URL: whc.unesco.org/archive/logowhc.gif)

3.3.2.1 Geography, hydrogeology, geology and climatic characteristics

Headquarters of NSNP are in village Illmits in Austria. Geological structure of the territory has the same features as described in 3.3.1.1. (*Neusiedlersee* 2009). Climatic characteristics are almost identical to those described in 3.3.1.2. (*Neusiedlersee* 2008). See *App. X* for topographic map of Austria. In the Lange Lacke ('long lake') its wilderness state is well preserved. It is a plain region mostly consisting of reeds and water. See *App. VIII* for the map of NSNP regions.

Wet pastures surround this area. Also in NSNP still there are steppe-relics areas. In Illmitz-Hölle area there are many salty (high Na content) lakes of different sizes, from small to big ones, some of the main are: the Oberer-Schrandlsee, the Unterer-Schrendlsee, the Kirchsee, the Unterer-Stinkersee, the Obere-Stinkersee and the Zicksee at Illmitz (DFHNP 1995).

The Zicksee at Illmitz is the third greatest lake in the Fertő region. Its surface is heavily covered with reeds, the same situation can be observed in other lakes. Alkaline plains with rarified halophyte flora surround lakes. There is high concentration of H_2S – hydrogen sulphide in the Unterer-Stinkersee and the Obere-Stinkersee lakes, from this feature their names originated – 'stinky' or 'smelly' lakes (DFHNP 1995; Lang and Hosp 1995-2008).

Region's name 'Zitzmannsdorfer Wieser' (Zirtmanns village's meadows) originated from the name of a small village destroyed by the Turks in 1529. In this region wet meadows (their wetness depends on the season) and half dried out fields are commonly found. On some of the fields agriculture species are cultivated; these areas represent traditional, 'green' extensive agriculture that add to the environment

sustainability of the region through traditional land use. Austrian part of Hanság is almost identical to Hungarian one described in 3.3.1.1., there wet fields and boggy meadows alternate each other.

3.3.2.2 Flora and fauna

In lowlands as well as in FHNP where there is little off charge and level of groundwater is high, *Betula pubescens* (hairy or European white birch) and *Alnus viridis* (green alder) grow abundantly. In areas where the relief is more elevated and thus there is less water abundance, soft wood forests grow successfully with dominant poplar and willow species. NSNP is also rich in unique grass species, latter are different and abundant, see P. 16 and 17. Further from the lake, on higher slopes hard wood forests grow where *Ulmus campestris* (elm), *Fraxinum angustifolia* (ash) and *Quercus robus* (oak) are dominant (Fürstand 1999).



P. 16 and 17. Grass species in NSNP

Some bird species populations, even though within a national park, continue to decline like the population of European nightjar (*Caprimulgus europaeus*) in 1990-2006. In this case it is because nightjars prefer young forest plantations as habitats. As in NSNP new forests are not planted (as this is primarily wetland habitat), secondary

succession occur and nightjars do not use the same trees for breeding again (as they grew older) and move to other places (Szélkiáltó 2008a; NSNP&BÖ 1996).

But many other bird species breed successfully on the territory of NSNP and their population increases. For example, number of eagle owls (*Bubo bubo*) in Austria increased in recent years and five breeding pairs even can migrated to FHNP (Szélkiáltó 2008b). Imperial eagle (*Aquila heliaca*) until 2000 used to be seen often only in the three border area of Austria, Slovakia and Czech Republic but because of its population in the west of Slovakia, now it can be observed more often. Also imperial eagle now can be seen in more southern regions like Mosoni Plain in Hungary (Szélkiáltó 2008c; Ekard 1998).

4. Summary of the main findings and discussion

In this, the last one, chapter results of the carried out research are analyzed and based on them some recommendations that could in my opinion improve the cooperation between FHNP and NSNP are given. Also some future possibilities for the development of the park is given, namely, its unification that mean one united park instead of two cooperating ones now.

4.1 Main transboundary projects between FHNP and NSNP concerning migratory birds: yesterday, today and tomorrow

Main activities in the field of transboundary cooperation focusing on migratory birds include monitoring bird populations, population trends, education, joined tourist activities. Some projects are not restricted to FHNP – NSNP cross-border cooperation but can be looked at on the broader European scale; such projects involve many stakeholders, including the two parks. There are many transboundary projects between FHNP and NSNP that are directly or indirectly connected to migratory birds, which are discussed below.

The lion's share of projects concerning migratory birds is about monitoring and research activities. Currently there are monitoring projects in operation where various bird species including migratory are monitored. Main species being monitored are geese (*Anserini*), including graylag geese (*Anser anser*), herons (*Ardeidae*), including great white heron (*Ardea herodias*) which is the symbol of FHNP and purple heron

(Ardea purpurea), white-tailed eagles (Haliaeetus albicilla) and great bustards (Otis tarda).

Methods include counting not only birds but also their nests. Bird populations are usually monitored from April to November; graylag geese are monitored in autumn and winter as birds stop at the lake in winter for rest from September to February. Data is gathered mainly by volunteers working independently on both sides of the border; later data is exchanged. Especially close cooperation occurs with migratory bird species populations as methods and schedules have to be harmonized to avoid double counting and ensure gathering of reliable information (Pellinger, Fersh pers. comm.).

There is number of ecotourist projects that involve cooperation concerning migratory birds as well. The first was Poland and Hungary Assistance in Reconstruction of Economy (PHARE) under the aegis of Cross Boundary Cooperation (CBC) program. PHARE later was extended by CBC to other CEE countries, but the abbreviation in name (Poland and Hungary) remained. PHARE was designed for ten years and was active from 1993 to 2004 (Mészáros pers. comm.; Galovicz 2006).

Its successor was INTERREG (Inter Regional) Austro-Hungarian program which existed from 2004 to 2007 as it was designed as a three year project.

Under INTERREG information center in Sarrod in Hungary was built, joined projects including monitoring of migratory birds continued and were enhanced, tourist paths were developed. Now its place took Austria – Hungary Interregional Transboundary Cooperation Program aimed for six years since 2007 to 2013 which intends to promote biodiversity protection and awareness rising by continuing of migratory and other birds' monitoring and research programs, producing of new series of leaflets and brochures, creating new nature exhibitions, environmental education, promotion of ecotourism, publishing a book and shooting a movie about FHNP and NSNP (Fersch pers. comm.).

The next big project to mention has major social aspect, it has recently started in Pannonia region and it involves sixteen protected areas, four of them are from Hungarian side. This project seeks to design understanding and cooperation between NGOs, local governments and protected areas (national parks, reserves, protected landscapes etc.). Its goal is to renovate lost sense of regional identity and good neighbouring.

This sense was mainly lost after the Second World War when big percentage of local population was relocated, and was not renovated till the fall of the iron curtain, so neighbour bonds were torn apart, and, not surprisingly, even now people from former Western and Eastern block countries have many prejudiced opinions, hidden suspicion and there is often lack of understanding. The project seeks to fulfill its goals through tourism development, support of local communities, public education and awareness rising. Under this project some funds are given by EU for monitoring activities for migratory birds in FHNP and NSNP (Lang pers. comm.).

There is also an international joined project with WWF that incorporates mainly Austrian protected areas including NSNP but also FHNP. It is a three and a half year project. It seeks to enhance biodiversity protection in the region. It fulfills its goals implementing agreed program that includes environmental education, building or expanding/renovating information visiting centers, training of guides, creating of nature exhibitions and even presentation of a short film. There are several minor similar international projects (Lang, Herzig pers. comm.).

Also there is an interesting project on habitat reconstruction that has direct impact on migratory birds. It is a joined cross boundary project between Hungary and Austria. Under this project areas are flooded by water from lake because these areas were previously to artificial drainage wetlands. There are some problems with this project in Hanság because of private land property. This directly affects migratory birds

as area of their habitat is enlarged and more birds can be shelter in FHNP and NSNP. This project is mainly developed in Hungary because there is state land property mainly but it has direct impact on Austrian part of the park.

All in all, transboundary cooperation between FHNP and NSNP is quite successful. Future plans of the parks' cooperation are not very clear, there is no crystallized vision about this. The overall plan is to continue existing projects in future, to enhance them and add new elements. Monitoring birds' programs would go on. International projects with external funding would continue, i.e. Hungary Interregional Transboundary Corporation Program till 2013.

Overall perspective of parks aims to ensure peaceful existence for waterbirds, including migratory birds, amphibians, reptiles, fish, insects and all the inhabiting flora and fauna in the region. There are some current operational plans how to improve the situation. For example, there are plans to compensate farmers somehow, as migrating geese occasionally damage their crop in winter. Migratory geese stay at FHNP and NSNP in winter for rest but they leave its territory for feeding.

Birds fly to farmers' land and eat leftovers of corn, as some grains always remain on the earth. But when the weather is wet or there is no snow, geese damage farmers' crops which were planted in autumn and by this time are five to seven centimeters high with their feet by squashing. Farmers can alter their crops to avoid damage or if they calculate that another crop, not corn, would bring more profit. In this case geese would be left without food and they may not stop in the park anymore as there is no food around. In this case they would be unprotected against shooting and their population would decline as they would lose appropriate resting place.

Also in future there is a plan to create a legal organization probably that would be affiliated to BirdLife International to enhance and better organize activities concerning wild migratory geese monitoring. As now there is no such organization and activities are

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voluntary so there is a need to ensure that these activities would go on, need for management and compiling data to have reliable base for further scientific research. The joined vision how the parks would develop is missing.

There is a concept though that further cooperation between FHNP and NSNP would help: if some problems are solved in Austrian part of the park, Hungarian colleagues may follow a good example and solve their problems in the similar way or press politicians to follow the example and vice versa, if in Hungarian part of the park something is done very well, Austrian colleagues may use this method or technique as well to ensure prosperous development of the nature conservation in the region.

4.2 Obstacles to the development of bilateral cooperation between FHNP and NSNP and problems in these parks

As mentioned above, the cooperation between FHNP and NSNP all in all is quite prosperous today and promising some further developments in future but still there were, there are and obviously there will be obstacles to the development of bilateral cooperation between these two parks and the aim of its directors is to eliminate or at least mitigate these delimitations as fully as possible under the existing circumstances. Some of the obstacles have been already solved, some are being solved, some remain unsolved yet and new ones are emerging all the time.

One problem that has been already solved is passport control. Before Hungary joined EU, it was a grave obstacle to cooperation as it was not convenient and slowed down certain activities, but now when Hungary is in EU, many things are easier, as

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there is a shared area and border is more theoretical. This helps to conserve the shared parks' flora and especially fauna more efficiently as animals do not recognize state borders. Some problems still remain: different currency, euros in Austria and forints (HUF) in Hungary, so it is not always convenient and some percentage of money for the joined programs and activities is lost because of exchange rates.

Staff time is an important bottleneck. More projects could be funded and completed but no free time of employees is available. In Hungary and Austria structure of employees is different. In Hungary all of them are hired by state and work full time, about sixty people and there are volunteers. In Austria there are volunteers as well but the staff employed in a different way: about 25 people work full time in three departments: department dealing with financial-administrative questions, conservation and PR department, and about 25 specialists work on temporary basis and hired from time to time as scholars' work is very costly and NSNP can not afford to employ them full time and use their help on project basis.

There is little time for joined meetings. It means that if there was more time, the work could be more productive. For example, joined meeting of FHNP and NSNP directorate has to occur at least once a year and it is done approximately once a year but it is not enough. There are land problems in the parks. Without doubt there are more problems in NSNP. In Austria most of the land is in private ownership so it was quite difficult to negotiate the establishment of National Park.

And it is even more difficult for NSNP now to gain some more land if they want to expand the territory. FHNP and NSNP were established as cross-boundary park to show that environmental issues are not solely attached to political strategy and there can be cooperation concerning environmental questions between capitalist and socialist country. Now the situation has changed but the park remained and transboundary cooperation continues.

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In FHNP it is easier as land is primarily in state ownership. So it was easier to establish National Park. But now there are some problems in Hanság region. Park wants to expand its territory as Hanság region represents marshy area with unique ecosystems that partly are incorporated into park's territory but there are private owners of the land who oppose this idea. Previously, the entire Hanság region was a marshy one, but now as many its parts were drained it needs reconstruction. Some crops were cultivated here but the yield was poor.

Also the legislation is different in Austria and Hungary and it creates some problems and misunderstandings as well. In Hungary forest legislation is on more superior level and has more power than habitat reconstruction legislation. In FHNP it means that when in the park habitat reconstruction is to take place, to convert drained habitats into their natural state it is not always allowed to do even on the parks territory as it is forbidden to cut down trees for there purpose. In Austrian there is no such problem because of different law practice, as habitat reconstruction law has more power.

Practically all the interviewed experts admitted that there is enough attention given to the transboundary cooperation in the field of bird migration but this attention is general, not specified and therefore not very helpful. It means that in general there is attention but there are few real consequences out of it. There are no lobbies in Hungarian or Austrian parliaments to promote further cooperation between FHNP and NSNP.

Also practically all the respondents said that cooperation on the ministerial level is helpful sometimes, especially to remove some grave obstacles. In 2003 – 2008 there was a transboundary program between Hungary and Austria when there was significant cooperation on the ministerial level (Mészáros pers. comm.). FHNP and NSNP were also involved in this program because protected areas always have dilemma: on the

one hand development of infrastructure is needed for internal needs, to attract tourist and it is necessary for the state network of roads, often transition roads through park, i.e. important and quite intensive road Sopron-Fertő, so from this point of view infrastructure of new roads is good as it is progress and development.

But on the other hand, such infrastructure imposes threat on protected fauna: especially amphibians and reptiles many of them die in road accidents, unsuccessfully crossing the road and flora: air pollution. Also roads are causes of habitat division and isolation. Austrian-Hungarian transport program's objective was development of the sustainable traffic. But practically all the respondents stated that the cooperation on lower levels is much more efficient and the lower is the level, the more efficient gets the cooperation.

In Hungary there were especially on the early stages of parks' development difficulties with equipment, and when special equipment was bought, with the staff to manage it. Unequal levels of technological supply in the parks lead to difficulties in cooperation as i.e. the same methodology can not be used on both parts of the border because of technical limitations.

There were many blemishes in soviet socialistic system but the modern democratic one is not perfect as well. In socialistic system parks were more secure in financial sense; they received more stable attention and resources from the country. Nowadays, parks in democratic-capitalist system are pushed to earn their own money through ecotourism, guided tours on ecopaths, birdwatching, canoeing etc. It is a good approach to a certain extend. It could be dangerous if there are too many people who create surplus pressure on existing ecosystems in the park and who can shift the fragile natural balance and therefore damage protected biodiversity.

FHNP provides more intensive tourism to earn money but it seems to be more or less within limits of sustainable ecosystem management. In Austrian part of the park

many tourist activities, that are allowed and even promoted in FHNP, are restricted. For example, canoeing is widely practiced in FHNP but only occasionally performed with tourist groups in NSNP. It seems that in NSNP ecosystem management is more solid and sustainable and money is earned in a slightly different way. In NSNP tourists are given broader overview of park and in NSNP much more products with park's symbolic can be bought in the special shop.

For many parks an obstacle for cooperation can be local community that is treated badly and thus opposes many parks' projects. NSNP and FHNP at first also had such problem but then eliminated it. In such situation problems may arise because of a) restrictions imposed upon local people and b) (was in case of NSNP and FHNP) exclusion of local people from the nature conservation process and related monetary benefits. It means that often national park in order to gain some money promotes tourism, builds hotels, rents equipment, opens shops and thus excludes local people from the process not letting them to earn money.

In FHNP and in NSNP strategy now is different. They organize only those activities and only those services that can not be provided by the local community. For example, accommodation and catering can be provided by the locals, so parks do not take part in these activities while birdwatching, environmental education, ecotours, canoeing can not be provided in the nearby villages and thus organized and managed by the parks' staff. In this manner parks' headquarters let the local community become richer and rich and strong local community provides more support to the parks and its activities including but not limited to transboundary cooperation concerning migratory birds.

Also an obstacle to the transboundary cooperation create some short-sighted local politicians who do not realize the potential of such cooperation and prefer more profit orientated solutions that are good in short term but do not achieve long term

goals. Partly this problem is due to the current political system that does not encourage creativity, sometimes especially people from older generation do not want or do not know how to deal with the new trends and sometimes they are not allowed or virtually have no space for promoting positive changes in transboundary cooperation as their political party does not approve of this as it has different priorities.

4.3 Is the cooperation effective and how it could be improved

Though there are quite many small and middle-sized obstacles to the bilateral cooperation including the one concerning bird migration, on the whole it is quite successful. For example, the stereotype fear is the fear of bureaucracy and the opinion that it slows down everything. In this case it is not true, though there is pretty much bureaucracy because many projects are EU or externally funded, it is efficient and occupies not that high percentage of staffs' efforts and time.

I state that the cooperation is quite effective basing my conclusion on facts, for instance, 80 % of transboundary projects that are proposed jointly by FHNP and NSNP to EU or to external bodies like WWF, BirdLife International etc. are accepted (Fersch pers. comm.). But on the other hand there were some critical comments about the cooperation from interviewees that wanted to remain anonymous and this affirms the idea that of course the cooperation could be improved.

There can be many improvements done concerning transboundary cooperation and the protection of migratory birds. First, list of species being monitored could be extended incorporating more CR, EN and VU species to help reveal their population trends. Then, as briefly mentioned before, some legal body like organization could be set up to store, sort and manage the entire information attained from migratory bird

monitoring, because now all these programs are voluntary and not administrated by one person, they are scattered in time and space and insecure in future.

For overcoming some of the obstacles it is difficult to give some real, working solutions because the obstacles are common, global and are largely beyond parks' and even often governments' capacity to make substantial changes. For example, it could be political climate, global climate change, global economic crisis etc. that prevents more effective cooperation and the solution of these problems should be global as well though parks can contribute to their solving as local stakeholders.

To manage adequately and successfully problem of migratory bird protection, cooperation on different levels is needed. Sometimes, to manage some serious problems as establishment or enlargement of the park cooperation on the highest – ministerial – level is needed. But more commonly level of the cooperation should be lowered down to become more efficient. It contradicts old paradigm where centralized government is salvation and can efficiently manage all the problems. Actually, it is not so and gave birth to the new paradigm where more hope and power is given to the local authorities because they know better local needs and conditions and they are involved in all this themselves.

And major decisions concerning overall nature conservation policy is given to the central government. Management on the local level is more efficient in Austria as there are federal states, NSNP is situated in Burgenland that are capable of the local decision making and policy implementation while in Hungary many questions about FHNP are still decided in Budapest by the central government, namely by the Hungarian Ministry of Environment and Water that is far away from the park and does not know its needs and conditions well and is not personally involved into its life.

Matters of security should be improved in FHNP in a sense of project development. It means that if somebody is dismissed/retires/goes to a maternity leave
etc. his/her project may fail and this happens quite often that when person is gone, changed work for instance, project is closed half-done as well. FHNP's headquarters should take example of NSNP, where if a decision was made and a project has started, it would be finished even if staff changes. Negotiations about starting for instance a new migratory bird monitoring project in NSNP are long and may I say painful but if the decision is made the project almost certainly would be completed.

Also habitat reconstruction laws in Hungary have to be improved and they should become stronger to let habitat reconstruction happen, to recreate wetlands because now it is not always possible as forestry law prohibits to cut down trees even if they were planted artificially, see Chapter 4.2. To overcome the bottleneck of staffs' time a little bit more stuff should be hired to complete more projects because there are such proposals, just there is no staff to complete them.

Hiring new staff is additional employment in the region and it would pay back soon as more projects could be approved and funded. In Hungary FHNP could try NSNP strategy of freelancers' part-time employment, when particular professionals would be hired only for specific projects. Probably more power to make local decisions should be given to Hungarian counties for them to decide what to do on the local level, namely Győr-Moson-Sopron county to have more influence on decisions concerning FHNP, not Ministry of Environment and Water in Budapest that should care only about more general issues.

For Hungary it was harder to establish FHNP and continue effective transboundary cooperation concerning migratory birds not only because Austrian part of the park had and has better equipment, i.e. helicopter versus small light airplane in FHNP, but also because works in Austria in NSNP started earlier so they had more time to develop. So in some cases Hungarian colleagues have to work harder to achieve the same results. Sharing of the migrating birds monitoring can be improved. Often, the

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data is shared but sometimes it is not, or it is but sometimes with a significant time lag, so it is lost / restricted for researchers. One option how to deal with this problem is to publish data in a journal every month, but probably more cost efficient solution is to upload data on parks' sites.

As briefly mentioned in the previous chapter, neither NSNP nor FHNP has lobbies in either national or EU parliament. It would be benefit for the parks to have one to secure and promote their interests. Logically, parks should seek primarily help from the Green Party but other variants are not excluded as nature conservation can be seen and advertised from different perspectives: as shared resource for all the people in socialist (left) perspective and as treasure of the entire nation that citizens can be proud of from nationalistic (right) point of view.

One major improvement of the parks work would be creation of short-term and especially long-term one. Now there is no such full strategy that would incorporate main goals of the parks, their aspirations for future development and long-term plan of actions supposed to be undertaken to maintain and improve different aspects of parks activities including migrating birds monitoring and research. Also it would be beneficial if parks headquarters cooperating would produce a monograph about the joined international park describing and analyzing park's fauna, flora, climatic conditions, geologic structures, history, human impact etc.

Such publication is needed because now there are many more or less comprehensive brochures and booklets that are more or less up to date and there is a number of newer and older publications (books, monographs and other printed materials like journals) where issues concerning FHNP and NSNP are described briefly or partly because it is not the focus of all of these publications. So such monograph would be useful especially if its circulation is significant and it would be available at the

scientific and public libraries and could be read online or downloaded in PDF or rich text format from the sites' pages.

Also an idea about the short movie shot in the park is a productive one. One of its main topics would be without doubt migrating birds. It is important for awareness rising as it would grab people's attention especially nice short film could appeal to children. It is needed indeed as many people do not know how great white egret or purple egret looks like and how to distinguish between falcons and eagles. To shoot an interesting and short scientific-entertaining film on a shoe string budget is not an easy task, it requires both skills and talent but it is worth doing and I hope would be done in the near future.

Optimization of *Szélkiáltó* ornithological journal (in Hungarian and English) is an important task for the park. It is a good, comprehensive edition written by professionals. But it is not secured in both temporal and financial sense. For example, now, June 2009, the last published edition available is March 2008. So an improvement would be to do this journal edition regular and to make it more international: add German language and invite German colleagues, because now its main contributors are Hungarians almost exclusively.

Also a certain harmonization of bird monitoring methods and more efficient process of each other informing about their results in both sides of the park is needed. It is not some high tech, costly improvement but it could optimize volunteers working results a lot sometimes. Also time lags in information sharing sometimes prevent effective cooperation and decrease or restrict certain activities connected with research and monitoring. Sometimes more clear and articulated plans about both sides' done work and planned future work are needed and not shared in time bringing confusion and misunderstandings in the harmonized everyday park staff work.

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Usually it is methods are harmonized satisfactory but sometimes and not rarely, in about 20 % of cases (Herzig pers. comm.), there are certain problems. Especially it is important for migratory bird species as they do not stay at one place. Unlike other birds, which populations and nests can be more or less safely measured in the two countries independently, for migratory bird species need to be clarified rules and methods of counting to avoid double counting and thus unreliable data.

Habitat reconstruction process could be improved as well. Drained areas as planned should be flooded with the water from the lake to turn the existing ecosystem into its previous natural state. This is mainly done on the Hungarian side of the border as morphologic – geological structures in the NSNP does not allow carrying out such reconstruction on the Austrian side. There are some problems associated with this process, see Chapter 4, but they could be solved.

One of such problem is financial. Now FHNP mainly pays for habitat reconstruction works and as the budget is limited and also dedicated to promote and continue other activities, such work is slowed down. As habitat reconstruction in FHNP straightly influences NSNP and especially migratory birds as additional places for feeding/rest/breeding are created, it would be fair it to divide equally financial expenses between two parks.

4.4 Evolution of FHNP and NSNP: from cooperation to unification?

I believe that the next step after successful bilateral cooperation between FHNP and NSNP in all the fields including migratory birds' protection and research, would be total unification of the two parks. It is not known when and if it would happen but I think such probability is high. Anyway, such unification would not be in the near future, not in near 10-15 years I suppose but some steps could be done now. And instead two even tightly connected parks it would be better and more efficient to have one.

One step towards such totally united park would be organization of one site in three languages: English, German and Hungarian instead of two sites that exist now dedicated to two parks: German one - http://www.nationalpark-neusiedlersee-seewinkel.at/ and Hungarian one - http://www.ferto-hansag.hu/. This activity requires a lot of common work and not only on the creation stage but also on the maintenance stage, but it is worth it.

For example, it would be easier for tourists to navigate if there is one joined site and more tourists from Austria would go to the Hungarian part of the park and vice versa. If creation of one joined park's site is now not a current plan, add normal, working version of English translations to each site would be very helpful for foreign tourists. Now German version does not have English translation, Hungarian site has option 'English' but the content of the site is incomplete, actually a foreign tourist can know nothing from this English version, but it is good that work has started.

There are vague plans about unification among parks' headquarters but there are some hidden contradictions: where (in Hungary or in Austria) would be headquarters and who would be director. In theory it would be cheaper according to the current prices to organize the joined parks' headquarters in Hungary. But unofficially in this tandem NSNP and FHNP, NSNP has more influence though it has less strictly protected territory, probably NSNP has more power because it has better monetary base. So from current point of view it seems more realistic that headquarters would be located in Illmits, in Austria.

It is also an interesting question who would be director of such a joined park. But actually it could be solved: four years may be somebody from Austria with vice director

from Hungary and four years vice versa. If the park would be a joint one, not only it would work more efficiently but also there would be less financial expenditures. There are many obstacles to achieve the goal of the joint park creation but it can be done now when both countries are in EU and the border is more theoretical than practical one and I suppose that the unification of the FHNP and NSNP would be worth spent efforts.

Conclusions

The aim of this work was to analyze how effective the transboundary cooperation between FHNP and NSNP in the field of migratory birds' protection and research. The general conclusion is that this type of the cooperation between two parks is quite successful. About 80 percent of proposed joined projects are being approved and funded. There are several big stable projects and a number of temporary smaller ones that are funded by Austria, Hungary, often EU and sometimes externally by WWF, BirdLife International etc. Most projects concerning migratory birds deal with monitoring and research activities. Now there are projects in operation where different bird species including migratory are monitored.

Main species being monitored are geese (*Anserini*), including graylag geese (*Anser anser*), herons (*Ardeidae*), including great *white herons (Ardea herodias)* which are the symbol of FHNP and purple heron (*Ardea purpurea*), white-tailed eagles (*Haliaeetus albicilla*) and great bustards (*Otis tarda*). There is number of ecotourist projects that involve cooperation concerning migratory birds as well. First one was PHARE under the aegis of CBC program: 1993 to 2004, its successor was INTERREG program: 2004 to 2007.

Now its place took Austria – Hungary Interregional Transboundary Cooperation Program aimed for six years since 2007 to 2013 which intends to promote biodiversity protection and awareness rising. Information is being transferred and shared between the two stakeholders on a regular basis, projects are being reported. As an indirect indicator of successful cooperation increasing population trends of EN, VU and CR birds like the imperial eagle (*Aquila heliaca*), VU according to IUCN 2009.

There are of course some problems concerning the cooperation. Part of them is beyond of the solving ability of the parks' headquarters but many could be solved. Like more staff could be hired to eliminate constant bottleneck of staff's lack of time and

would allow start and fulfill more environmental projects as it is welcomed and possibly would be funded by EU. List of species being monitored could be extended incorporating more CR, EN and VU species to help reveal their population trends. Also some legal body like organization could be set up to store, sort and manage the entire information attained from migratory bird monitoring. From the Hungarian side the cooperation could get more effective if more decision-making power would be given to local authorities (counties).

Also habitat reconstruction laws in Hungary have to be improved. One major improvement of the parks work would be creation of short-term and especially long-term one. It would benefit NSNP and FHNP to have some lobby in either national or EU parliament for the parks to secure and promote their interests. Also it would be beneficial if parks headquarters cooperating would produce an up-to-date illustrated monograph about the joined international park. A short movie shot in the park is a productive idea as well. Optimization of *Szélkiáltó* ornithological journal (in Hungarian and English) is also an important task for the parks on future. Also a certain harmonization of bird monitoring methods and more efficient process of each other informing about their results in both sides of the park is needed.

The next step after successful bilateral cooperation between FHNP and NSNP in all the fields including migratory birds' protection and research would be total unification of the two parks. It is not known when and if it would happen but I think such probability is high. Having one headquarters and joined staff would be more efficient for the park's activities and projects. There are number of problems and uncertainties concerning the unification of the park like where the main office would be and who would be the director. Also for such development political decisions on the higher level are needed. One step towards such totally united park would be organization of one site in three languages: English, German and Hungarian instead of two sites that exist now.

There is quite a solid basis that regulates and promotes international cooperation concerning migratory bird species protection and research. This includes such multilateral agreements, treaties and conventions as Convention on Biological Diversity, Bern Convention, Convention on the Conservation of Migratory Species of Wild Animals, African Eurasian Waterbird Agreement, Convention on the Protection and Use of Transboundary Watercourses and International Lakes and EU Birds Directive. Hungary and Austria have their own developed but continuously developing environmental laws. But these two sets of legislation are considerably different that sometimes is an obstacle to the effective cooperation.

This research work is topical because transboundary cooperation is vitally important now when old boundaries are destroyed and new ones are created and when large part of biodiversity including migratory bird species is at risk of extinction. Transboundary cooperation is needed concerning migrating species that acknowledge no countries' boundaries. So research in this area is welcomed to understand mechanisms of such cooperation better and thus have the possibility to improve it. Attention is focused on migrating birds because birds sometimes migrate on the long distances, they can spread diseases dangerous for human; migratory bird species are subject to shooting which is sometimes non selective or/and massive that poses a threat on CR, EN and VU and, finally, migratory bird species often have economic value.

I would suggest carrying out the similar research in ten years' time and observing what progress will be achieved, what new problems will emerge and how the situation will evolve as a whole. Whether the two parks became a joined one and if not are there such plans and what has been done in this direction. Another interesting opportunity is to carry out similar research in the different geographical range, look at the one of 227 registered transboundary protected areas worldwide (Lysenko et al. 2007), preferably

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not in Europe to change the geographical range more dramatically and look what problems and opportunities do they have and how they solve them.

Personal communications

Personal communications in FHNP (Hungary): June 2009, village Sarród, headquaters of FHNP
István Goda, head of department: tourism
Krisztina Mészáros, nature conservation officer
Miklós Lázár, forest ranger, tourist manager
Attila Pellinger, ornithologist, head of department: science
Attila Fersch, chief project manager
Zsófia Dobson, environmental education officer
Personal communications in NSNP (Austria): June 2009, village Illmitz (Illmic in Hungarian), headquaters of NSNP
Alois Lang, head of department: public relations and ecotourism
Prof., Dr. Alois Herzig, chief officer of the Biological Station Neusiedler See

Appendix I. The questionnaire used for the formal interviews

- 1. How long have you been working here?
- What kind of transboundary projects concerning migratory birds do you have?
 Please, describe them
- 3. Are they effective enough in your opinion?
- 4. What are park's future plans for transboundary cooperation in the field of migratory bird species protection, research and more?
- 5. What ministry or another legal body is responsible for the cooperation?
- 6. What obstacles are there for the cooperation?
- 7. How do you think these problems could be overcome?
- 8. Do you think there is enough attention given to the transboundary cooperation in the field of bird migration in this country?
- 9. Do you think there is a need of cooperation on the higher level?
- 10. How could the cooperation be improved in your opinion?

Appendix II. Transboundary protected areas (TBPA)

worldwide

Table 2. Locations and areas of TBPA worldwide

Region	TBPA area, km2
North America	4 544 607 00
North America	1,511,627.08
Central and South America	1,424,697.66
Europe	188,153.30
Africa	931,617.95
Asia	570,505.86
Global	4,626,601.85
(Source: UNEP-WCMC 2007)	



Figure 3. Visual expression of locations and areas of TBPA worldwide

⁽Source of data: Table 3)

Appendix III. Transboundary cooperation in the Peace Parks



in South Africa

(Peace Parks Foundation 2009)

Appendix IV. Location of the Hungarian National Parks (NPs)



(Source: Vendégváró 2009)

Translation:

Nemzeti Parkok – National Parks (NPs)

Tájvédelmi Körzetek – Landscape protection areas

Description: (parks are listed in order of creation)

- 1. Hortobágy National Park (NP) which was created in 1973
- 2. Kiskunság NP 1975
- 3. Bükk NP 1976
- 4. Aggtelek NP 1985
- 5. Fertő-Hanság 1991
- 6. Duna-Dráva NP 1996

- 7. The Upper Balaton NP 1997
- 8. Duna-Ipoly NP 1997
- 9. Kőrös-Maros NP 1997
- 10. Őrség NP 2002

Appendix V. Map: Regions of Hungary



(WikiMedia 2007: http://commons.wikimedia.org/wiki/File:RegionsHungary.png)

Appendix VI. Map: Counties of Hungary



(WikiMedia 2006:

http://commons.wikimedia.org/wiki/File:Counties_of_Hungary_2006.png)



Appendix VII. Topographic map of Hungary

(The Times Atlas of the World. 1997.

URL:http://maps.grida.no/go/graphic/hungary_topographic_map)

Appendix VIII. Regions of FHNP and NSNP



(DFHNP 1995)



Appendix IX. Topographic map of Austria

(WikiMedia. 2005. Oesterreich_topo.png. URL:

http://commons.wikimedia.org/wiki/File:Oesterreich_topo.png)



Appendix X. Map: Federal states of Austria

(Source of data: WikiMedia. 2005. URL:

http://commons.wikimedia.org/wiki/File:Austria_states_english.png)

Appendix XI. Map: Parties of Bonn Convention (CMS)



Convention on the Conservation of Migratory Species of Wild Animals

(CMS. 2008. URL:http://www.cms.int/images/party_map/interactive/

cms_parties_ world. jpg)



(http://www.unep-aewa.org/map/map_large.

Appendix XI. International organizations, conventions etc.: illustrative material



Picture 3. International Day for Biodiversity (http://www.cbd.int/idb/2009/)



Picture 4. Logo of UNEP. P.5. Logo of CMS. P.6. One of the current CMS

programmes.

P.4(http://en.wikipedia.org/wiki/File:Unep_logo.png)

P.5(http://www.cms.int/images/friends_small.jpg)

P.6(http://www.yog2009.org)



P.7 Logo of AEWA P.8 Logo of UNECE P.9 Logo of Water Convention

P.7. www.unep-aewa.org

P.8 www.portal.unesco.org;

P.9.http://www.unece.org/env/water/



P.10. Logo of 25th anniversary of EU Birds Directive adoption

(http://www.birdlife.org/action /awareness/eu_birds_directive/index.html)

P.11. Logo of Ministry of Environment and Water in Hungary

(http://www.kvvm.hu/index.php)





lebensministerium.at

P. 12. Logo of Austrian Ministry of Environment ('Ministry of Life' in German)

(http://www.lebensministerium.at)

P.13. Logo of Bern Convention

(http://www.coe.int/t/dg4/ cultureheritage/conventions/bern/default_en.asp)

P.19. Logo of INTERREG (http://www.interreg4c.eu/)

P.20. Headquaters of NSNP in Illmits built under INTERREG program (www.fertopart.hu/ferto_hansag_nemzeti_park.html)







P.18



Phare P. 18. Logo of PHARE (or Phare) program (http://ec.europa.eu/enlargement

/how-does-it-work/financial-assistance/phare/index_en.htm)

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NB Selected images were modified in PhotoFiltre 6.2.5 and PhotoShop CS4