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Sustainable Development of Lake Areas



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TOURISM CARRYING CAPACITIES AT LAKES – LIMITS AND THREATS

Wimbleball Lake - a sustainable tourism and visitor management case study

Richard Partington, Senior Specialist & Landscape & Nature Conservation Policy

Background

The natural environment together with opportunities for active tourism is a major draw for visitors across Europe to its many protected areas. Wimbleball Lake is no exception. A 200 hectare inland water situated within Exmoor National Park in southwest England is a key site for public enjoyment and one which can absorb visitors without detriment to the environment.

The lake was designated a 'water park' in 1987 by its owners, South West Water (a private utility company), in recognition of its importance as one of five key reservoir recreation sites across the southwest region of England. A range of facilities and activities on and off the water are managed at Wimbleball Lake by the South West Lakes Trust (an independent charity, formed in 2000). Their aim is to provide sustainable recreation, conservation, public access and education at sites across south-west England, attracting over 1.5 million visits annually with 150 thousand per year to Wimbleball.

Wimbleball lake, as is the 692 sq km Exmoor National Park in which it sits, is relatively isolated. The regional population is approximately 5 million yet within a 30 minute drive time contour of Wimbleball Lake the population is only thousand, and within a 60 minute drive time contour totals 932 thousand.

Its isolated location is within an upland valley at a height of 236m and surrounded by farmland, woodland and some heathland. The southern end of the lake is dominated by Haddon Hill at 354m, an area of rich nature conservation. The southern end of the lake is extensively wooded with predominantly native broad leaved species including oak, beech, birch and holly alongside softwood species that are being gradually replaced. Farming in the area is mainly grazing sheep and cattle.

The Wimbleball Project Vision

The strategic vision for the Wimbleball project was to encourage new visitors to an existing but under utilised Exmoor attraction, providing higher quality tourism facilities and increasing the long term economic prosperity of the local population.

The project focussed on helping to sustain the local economy, whilst contributing to the well-being of the local community and tourism more generally on Exmoor, by offering training and jobs to people from the area. Investment was intended to create a suitably trained workforce for countryside and water-based tourism operators.

Tourism was not a year round business at Wimbleball lake, but innovative use of improved facilities, with increased training activity in the shoulder months, was seen as a key driver to develop the site's potential for a longer season. The project was also designed to benefit the surrounding rural businesses by offering opportunities to raise their skill levels to adapt to customer needs.

The Wimbleball project was supported by Somerset Rural Renaissance Partnership, Sport England, West Somerset District Council, Exmoor National Park, DEFRA and the European Regional Development Fund and consisted of six key elements, which together were designed to provide a coherent package of improvements to attract more high spending visitors with a variety of activities.

A new inclusive Activity Hub with watersports and outdoor activities

A Training centre of excellence

Improved public access on and around the Lake - cycling, walking and for people with disabilities

Improved visitor facilities including: café, rangers reception, tourist info point

New interpretation of the site natural features

New Centre managers office with IT links to local community

Outcomes

This case study demonstrates how sustainable tourism development, through a targeted and focussed project has contributed to multi objectives. Increased visitor spend and has brought new higher spending visitors to Wimbleball and Exmoor. It has provided higher quality tourism facilities and increased the long term economic prosperity of the local population by giving training and jobs to people from this disadvantaged rural area. It has benefited surrounding rural businesses by offering opportunities to raise their skill levels, for joint marketing and for diversification. Active tourism continues to grow and provides both economic and health benefits. Over the past twelve months 47,000 recorded activity visits took place. Watersports participation has grown with 11,500 people taking part in sailing, windsurfing, rowing and canoeing. 19,000 people took part in informal walking at the lake and 314 people took part in organised walks. 29 people took part in public orienteering and 415 participated in informal cycling. 2199 have taken part in formal cycling, tours or horse riding and 1671 have been part of school visits. A further 21,514 have attended open days and organised events.

Profile/CV Richard Partington, Senior Specialist & Landscape & Nature Conservation Policy

An environmentalist specialising in protecting, as well as encouraging enjoyment of, the natural world with experience at a local, regional, national and international level - particularly landscape and nature conservation, outdoor recreation management, sustainable living, visitor service and environmental learning provision as well as an occasional author and speaker. Professional Member of the Countryside Management Association and Member of IUCN's World Commission on Protected Areas including its Protected Landscapes Task Force. Also Member of the EUROPARC Atlantic Isles executive board and the ICOMOS -UK/IUCN -UK Landscape Working Group.

Past roles include New Zealand's National Park Service, the Broads and Exmoor national parks and the Countryside Agency in England as well as consultancy advice across a range of international assignments achieving practical solutions in linking the environment to wider economic, social & health outcomes. Currently Senior Specialist with Natural England and have responsibilities for Landscape/Protected landscapes and, specifically, leading the implementation of the European Landscape Convention in England. Natural England is a government agency with responsibility for nature & landscape conservation as well as promoting recreation & access opportunities.

Contact: Natural England, 3 Valentines, Dulverton, Somerset, TA22 9ED, Somerset, England, UK
Richard.partington@naturalengland.org.uk
DL: +44 (0)1398 324504
M: 07900 608433
www.naturalengland.org

Notes

TOURISM DEVELOPMENT IN EUROPE – IMPACTS, CHALLENGES AND MARKETING

Anke Biedenkapp, Executive Director of Stattreisen Hannover / Germany

Tourism development in Europe started slowly after the Second World War, accelerating with the beginning of charter flights in the 1960s, when bigger, faster aircraft provided direct connections to holiday regions for progressively lower prices.

This led to:

- a decline in the use of train and bus for travel to and from holiday regions
- easier access to long-distance holiday destinations
- more frequent travel.

Consequences of this continual increase in 'Wanderlust' were and still are:

- exponential growth in accommodation enterprises and restaurants
- road and airport construction
- increasing demand for diverse services and consumer goods
- use of aspects of local culture to enhance tourism packages

This led to criticism of 'mass tourism': As early as the 1970s, NGOs, journalists and academics were pointing out the problems:

- loss of natural landscapes, worsening pollution
- destruction of traditional architecture and culture
- dependency on mainstream tourism, seasonal peaks and large international travel companies
- destruction of the traditional diversity of employment and reasonable working conditions
- importation of foodstuffs from tourists' home countries, and of fake souvenirs from sweatshop countries

Responses to the negative side-effects of mass tourism were many and varied:

- demands for taxes on (aviation) fuels
- development of alternative holidays by very small companies and destinations
- guidelines from NGOs (for 'correct behaviour') in tourism
- formulation of manifestos at political level
- commitments by travel operators and the appointment of company environmental officers
- emergence of labels, umbrella brands and inspection procedures for the further development of environmental and social standards in tourism

Considering that on the one hand tourism is now the fastest growing economic sector in the world and on the other hand climate change and regional development demand better strategies, sustainable tourism could be one – also for Living Lakes:

Opportunities:

- Tourists are persuaded of the sense of nature and landscape conservation and 'convert' to ambassadors of the areas they have visited.
- Tourists' interest in (conservation) areas stimulates appreciation by residents and local politicians.
- Income from tourism is used to retain and expand the needed

infrastructure.

- Tourism 'product development' happens in harmony with the interests of the local population, mature structures and landscape.
- Demand for services and consumer goods by tourists creates training and employment.

Challenges:

- Work out a clear idea and the volume of tourism you want – one appropriate for the protected area and the local situation (architecture, infrastructure, activities...).
- Integrate it in an overall sustainable development plan.
- Establish effective cooperation between GOs, NGOs and private services / PPP.
- Involve local people in tourism planning-
- Improve the capacity building for people working with / for tourists.
- Preserve the natural AND the cultural heritage.
- Network with neighbouring destinations and official tourism boards.
- Corporate identity => corporate design => corporate marketing = create "suitable packaging" for your offer: promotion material, website, press releases, trade fair stands.

Recommendations for promotion in general:

- Define your target group(s) and their interests.
- Work out tangible tourism packages.
- Maintain a reasonable cost-benefit ratio.
- Have professional 'selling points'.
- Take advantage of existing certification systems and labels or work out your own branding.
- Find the appropriate language to appeal to your client.

Invitation to join Reispavillon, a worldwide unique fair for sustainable tourism

Your opportunity to prove the success of your marketing strategy: with a stand, a presentation or display board you could reach tourists, journalists, professionals, students ... - and you can network!

Summary: Tourists travelling more and more often, faster and further. Summary: Internationally, constant growth in incoming tourists and income from tourism
Summary: Tourism brings not just higher income but also higher costs and (unwelcome) social changes
Summary: These 'solutions' to problems caused by tourism were neither binding nor comprehensibly applicable. Summary: Sustainable tourism offers a vision of the balance between the conservation and the use of the natural environment. Summary: Sustainable tourism relies on quality, plays to its strengths and does not try to follow 'tourism fashions'. Summary: Having a pristine and unique landscape attracts tourists – then you have to keep them! Summary: Reispavillon is an open platform – and it's yours. Use it! [Main theme in 2009: 'Tourism along the Green Belt / the former Iron Curtain']

ANKE BIEDENKAPP

Stattreisen Hannover
Hausmannstr. 9-10
30159 Hannover
T: +49511/1640331
F: +49511/1640391
E: info@reisepavillon-online.de

CURRICULUM VITAE

- Born: 26.01.1960 in Alsfeld/Hessen
- 1966 - 1978: School and secondary school in Schwarz, Lehnheim und Grünberg/Hessen
- 1978 - 1985: Studies of history and spanish in Bonn, Salamanca/Spain and Göttingen

MEMBERSHIP IN SOCIETIES

- Since 1986 member of Friends of the Nature
- Since 1987 member of the association gruppe neues reisen;
1990-1994 member of the board of directors
- Since 1990 Founding member of the association Stattreisen Hannover,
Organisation of alternative and sustainable town trips in Hannover
- Since 1996 member of the ANU
Association of centers of nature and environmental education
- Since 1998 member of the board of forum anders reisen
- Since 1999 Die Arbeitsgemeinschaft für Tourismus und Entwicklung / DANTE ,
Diese in Deutschland, Österreich und Schweiz ansässige AG hat im Rahmen des
WSF 2004 eine Themenschwerpunkt „Tourismus“ eingebracht.
- Since 2000 member of ecotrans, europeam network of tourism consulter
- Since 2007 member of the jury "competition towards (a better) tourism" of the
german land Nordrhein-Westfalen

EMPLOYMENT RECORD

- 1985 - 1988: Tourism guide in Spain and Malta
- 1988 – 1990: secondary school teacher as a „Referendar“ in Hannover
- 1991 – 2008: Executive Director
 - Koordination of Stattreisen Hannover
 - Realisation of the Reisepavillon – International Fair of alternative
travel a unique exhibition for environmentally and socially
responsible tourism
 - training of tourism guides in Hannover
 - workshops in respect to sustainble tourism
 - project partner in VISIT – an voluntary initiative of
sustainable tourism on european level
 - diverse lectures and participations in workshops,
seminars, radio and TV about (sustainable) tourism

Notes

NATURE TOURISM CHALLENGES IN ESTONIA

Mart Reimann, University of Tallinn, Estonia

Estonia has relatively high nature tourism potential, 47% of Estonian territory is covered by forest, 22% covered by wetlands. One of the biggest treasures are our 1500 islands where nature is well preserved and traditional lifestyle has been preserved to a large extent. Only 13 of them are inhabited.

Our wooded meadows hold one of the highest scores of plant species per square meter in the world - 76. Estonian position in the main bird migration route in the northern hemisphere makes it excellent for bird-watching. Estonia has quite a lot to offer for niche markets, for the general nature tourism market we do not have attractive sights like Grand Canyon or Victoria Falls, which are well-known even without any bigger efforts. Our nature tourism resources require good interpretation and marketing skills.

Main challenges

- Marketing and brand building
- Effective use of local resources
- Coordination (public, NGO, private)
- Too little attractive interpretation
- Too little packaging
- Too few activities included in products
- Not enough professional skills
- Seasonality

Contact:

Tallinn University
Department of Recreation Management
Estonia
mart@tlu.ee

CURRICULUM VITAE

Name: Mart Reimann
Date of birth: 06.11.1975
Home address: Kuusalu, Saunja 74604, Harjumaa, Estonia
Phone: +372 5114099
E-mail: mart@retked.ee

Education:

09.1982 – 06.1994 Kuusalu Secondary School
08.1994 – 06.1999 Tallinn Pedagogical University, Department of Mathematics and Natural Sciences, BSc in geocology
01.2001 – 08.2001 Garrett College, Adventuresports Institute, Maryland USA, A.A in adventuresports
09.2000 - 08.2003 University of Tartu, Institute of Geography, MSc in landscape ecology and environmental protection
09.2003 - University of Tartu, Institute of Geography, PhD student in human geography

Supplementary courses:

12.- 23. 07. 1995 “Man and Environment” (landscape planning, Hiiumaa, Estonia, organised by University of Toronto, Canada)
02.1997 – 05.1997 “A Sustainable Baltic Region” Tallinn, Estonia co-ordinated by Uppsala University, Sweden
21. 09. – 20. 11.1998 A study and official visit in Denmark, organised by Danish Forest and Landscape Research Institute
09.2003 Risk management for adventure tourism. Train the trainers programme. Estonia, Norway. Organised by The Scottish Agricultural College, Enterprise Estonia, Estonian Rural Tourism Association Reiselivsradgivning AS.
01. 2004-03.2004 PhD studies at Norwegian Agricultural University, As, Norway

Professional experience:

11.1996, 04.1997 Research project: “Food web dynamics and community structure on the hemiarctic tundra landscape” (Finnmark, Norway), field assistant
04.1996 – 05.2000 Ministry of Environment, Harjumaa Environmental Department, expert of nature conservation
01.2001 – 05.2001 Visiting lecturer of ecotourism, Garrett College, Maryland, USA
08. 2000 – 12. 2001 Project manager of planning of recreation areas in Estonian state forest
01. 2002 – 12.2002 Manager of the visitor investigation research project in Estonian state forest recreation areas
11. 2004 Visiting lecturer, HAN University Nijmegen, The Netherlands
11.2005 Visiting lecturer, University of Lapland, Rovaniemi, Finland

since 09.1999 Tallinn University Department of Recreation Management,
lecturer of ecotourism, recreation management and
environment protection

since 05. 2003 Board member of tourism company Reimann Retked LLC.

since 11. 2003 Member of Estonian tour guides certification committee

Languages: Estonian, English, Russian, Finnish

Organisational activities:

Estonian Ecotourism Society, board member, NGO

Estonian Rural Tourism, member

Adventuresports Institute Executive Council, member (Garrett College, Maryland,
USA)

American Canoe Association, member

Estonian Students Society for Environment Protection "Sorex", member

Estonian Geographical Society, member

Notes

ECOTOURISM MANAGEMENT AT THE BALATON UPLANDS NATIONAL PARK

Annamaria Kopek, Dr., Head of Tourism and Education Department, Hungary

Although the second most important touristic destination of Hungary, the region of Lake Balaton has an unmatched wealth of natural, landscape and cultural values to be protected. The ten years old national park stretches along Balaton Uplands, at the northern part of Lake Balaton comprising in total 57 000 hectares, made up of six regions. The main tools of ecotourism management in the NP of orientating the visitors and ensuring them useful pastime are exhibition sites, nature trails, guided tours, events, publications and accommodation facilities. Environmental education is partly based on these tools, providing open-air school programmes, teacher training courses and other possibilities for the interested. One of the future tasks of the NP Directorate is to develop visitor centres in the region, also as elements of the forming Bakony-Balaton Geopark.

One of the regions of the NP is Tihany Peninsula, which was the first protected landscape area of Hungary. The results of the half-a-century-old protection here were honoured with the European Diploma in 2003. The cultural landscape of Pécsely Basin, the karstic formations or the rich insect fauna give diversity to the national park, just as the geological formations, the distinguished botanical values or the well preserved folk architecture of Káli Basin. The basalt hills of Tapolca Basin are not only unique and picturesque geological relics; they are also the habitat of many rare plants and animals and the home of traditional viticulture. The relatively small area of the forested Kesztye Hills is highly diverse in geological and geomorphologic features and several different climatic effects also influence its diverse flora. The Kis-Balaton, as a huge wetland habitat has always been recorded by European nature conservation and belongs to the Ramsar Convention.

An important task of NP Directorates is the interpretation of natural and cultural values, forming of consciousness and promotion of orientated ecotourism while protecting nature. The NP Directorate has achieved spectacular results in the last few years and it will be also one of our highlighted tasks in the future. The most significant results are the increase of public awareness and widening possibilities for orientated, joyful pastime. Some examples of this activity:

Exhibition sites differ in theme and location, including geological (caves, unused quarry), cultural (folk house, water mill, forestry exhibition), agricultural (buffalo reserve, manor) or botanical (arboretum) sites, operating with uniform image, entrance fees, opening hours, gift shops. The total number of visitors at the 11 sites in 2006 was 300.094.

A developed system of marked trails provides basis for hiking tourism. Nature trails developed by the NP Directorate can be freely visited and serve well the orientated tourism in the protected areas. The information boards and guiding booklets provide more information to tourists.

Guided tours can be obtained for a fee and free guaranteed tours are also offered from Spring till Autumn in the regions of the NP. Most groups come from schools in May.

Events are held on green days (e.g. European Day of NPs) at the exhibition sites or as free guided tours.

We run accommodation facilities at three places altogether with 105 beds. These are partly ensured for tourists, student groups and partly for researchers working in protected areas.

Presentations on nature conservation and the natural and cultural assets of the NP are mostly given at elementary schools but also for pensioners. Open-air school programmes, volunteer summer camps, training courses for teachers are also activities for promoting environmental consciousness.

The most important marketing tools are free leaflets, the Internet and participation in travel fairs. The NP Directorate creates many of the publications and souvenirs sold at the exhibition sites.

Contact:

Balaton National Park Directorate
Head of Department of Tourism and Education
Kossuth L. u. 16, 8229, Csopak, Hungary
kopek@bfnp.kvvm.hu

Notes

MANAGING LAKES AND TRANSBOUNDARY WATERS – AN EUROPEAN PERSPECTIVE

Harro Riedstra, European Water Partnership, Belgium

Notes

BALANCING ENVIRONMENTAL PROTECTION AND ECONOMIC DEVELOPMENT AT LAKE CONSTANCE

Dr. Tillmann Stottele, Department for Environment and Nature Conservation of the City of Friedrichshafen, Germany

Lake Constance in the North of the Alps in-between Austria, Germany and Switzerland is the third biggest lake in Central Europe. Today 1.6 million inhabitants live in the catchment area of the lake (10,900 km²). One million motor vehicles are licensed. Four million people get their drinking water from the lake. At the same time the tourist communities at the lake count six million over night stays and over 25 million day visitors per year. 10 % of the overnight stays are in Friedrichshafen, which is, with its 57,000 inhabitants, the second biggest town at the lake and the most important industrial site and economic motor of the region.

The industrialization of the City of Friedrichshafen started with the technological sector aviation and automotive, initiated by the Duke Ferdinand von Zeppelin, who planned and constructed his famous Zeppelin airships at the beginning of the 20th century in Friedrichshafen. Until today the former enterprises are the mainstay of the economy in the region.

The productivity is directly dependent on the number of employees in research and development. Nationwide the region has the fifth highest number of highly qualified employees in the technology sector and employees more than 6 % engineers. The technological leadership of the region is not only based on the main sectors automotive supply, aviation and aerospace industry but also on the telecommunication and electronic industries.

Many enterprises in the region are global players. This promotes the international transfer of knowledge on all levels. The external trade sales volume reached in Friedrichshafen actually 51 %, 8 % more as in the federal state of Baden-Württemberg (south-west Germany). In a nationwide analysis of the number of patent application in the year 2002 the region took the second place. Without doubt, Friedrichshafen and the whole region Lake Constance – Upper Swabia is one of the most forward looking regions in Central Europe.

This position attracts many people immigrating in the region and causes combined with the growing welfare a steady expansion of the settlements and the traffic up come. Especially the growing freight traffic on the roads is an important source of air pollution and noise. Further environmental problems are the increasing use and change of the lake's affluents, shore lines and shallow waters. The continuing intensification of farming and forestry causes high immissions of fertilizers and of pollutants into the lake. Last but not least we observe a demonstrable climate warming since 1880 of plus 1.5 to plus 2.0 °C and expect another of at least plus 2.0 to plus 2.5 °C until 2100.

At Lake Constance only regional – and that means international – cooperation can define and implement problem solving, which is inevitable for sustainable development. A successful cooperation has to include all decision making levels as

well as an active public participation and the shaping of an environmental awareness and of regional identification to moderate a fair balance of interests.

At large Lake Constance and its catchment area have achieved great progress in water purification and protection of waters. A big effort is needed to renature affluents and the shore line. On the landside we have to enlarge the protected areas and to make our urban areas greener.

For that the European and the German planning law provide important instruments in terms of multi-level settlement planning, which is supported by environmental impact assessments on each level. The aim of those environmental impact assessments is avoidance, reduction or at least adjustment of the caused environmental burdens and landscape transformations.

The international Lake Constance Conference is actually redefining its guideline for the lake's development and the accompanying measurement plan. Common monitoring-programs shall serve the purpose of success controlling and regular updating of the package of measures.

The last survey of the chamber of industry and commerce showed, that the regions enterprises are convinced, that a sane environment is of vital significance for a successful and sustainable economy in the region. While the companies are satisfied with the actual condition of the environment, the public opinions about this differ in a big way.

Curriculum vitae

Dr. Tillmann Stottele has been Director of the Department for Environment and Nature Conservation at the town council in Friedrichshafen, Lake Constance, Germany, since 1995.

He is the City Representative for Environment and Sustainability as well as coordinator of the towns Lokal Agenda 21 and member of the Working Group for Tourism at the International Lake Constance Conference. Born in Braunschweig, Germany, he completed his studies of Biology at the Universities of Stuttgart-Hohenheim and Göttingen, main focus on Geobotany. He furthered associate PhD studies at the faculties of Biology and Educational Sciences at Göttingen University.

Contact:

Dr. Tillmann Stottele
Department for Environment and Nature Conservation
City of Friedrichshafen
Eckenerstraße 11, 88014 Friedrichshafen, Germany
t.stottele@friedrichshafen.de

Notes

TRANSBOUNDARY COOPERATION AT LAKE PEIPSI

Harri Liiv, Vice Chancellor of Estonian Ministry of Environment, Estonian-Russian Water Commission

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EFFECTS OF NATURAL AND HUMAN IMPACTS ON LARGE EUROPEAN LAKES – CASE STUDY LAKE PEIPSI AND LAKE VÖRTSJÄRV

Dr. Külli Kangur, Estonian University of Life Sciences

Peipsi (3,555 km², mean depth 7.1 m) is the largest transboundary lake in Europe. As in many shallow lakes in Europe, eutrophication is the most serious environmental problem for Peipsi. Transboundary conditions complicate the implementation of policies that might prevent or mitigate environmental damage in the Peipsi region. Long-term investigations show a steady gradient in total phosphorus (TP) and total nitrogen (TN) content along the lake: the northern and deepest part, L. Peipsi s.s., is significantly less loaded with nutrients than the southern and shallow part, L. Pihkva, into which the main inflow, the Velikaya River discharges. The polarity of N compounds has been relatively stable over the years. To the contrary, the increasing polarity of TP content shows clearly that input of P from the south is increasing. The limnological time-series data from 1950 to 2007 indicate deterioration of water quality and adverse changes in the whole ecosystem of lake. Eutrophication has led to an undesirable growth of algae, massive blooms of cyanobacteria accompanied by oxygen depletion during the night and fish kills, cyanotoxins in water, low water transparency and siltation of the lake bottom.

The eutrophication phenomena are most intensive in the southern part of the lake, L. Pihkva. Worsening ecological conditions in L. Peipsi and high fishery pressure (including poaching, unregistered caught quantities, excessive number of professional fishermen) jeopardize the valuable fish resources in the lake. In Peipsi, which is inhabited by 37 fish species and is considered one of the best large fishing lakes in Europe, the recent yields of some 7,000 tons per year are about half of those 70 years ago. Even though the fishery methods have changed, the fish stocks of the lake have repeatedly suffered from over-fishing. Since the 1930s, no fish species has become extinct in the lake but their proportion has changed considerably.

Recently, over-exploitation has caused a significant decrease in the abundance of larger specimens of pikeperch. In the fish community composition remarkable changes occurred at the turn of decade 1980/1990: a significant increase in pikeperch *Sander lucioperca* numbers preceded the collapse of vendace *Coregonus albula*. Collapse of the vendace population in Lake Peipsi was mainly attributable to sequential extreme weather events. In addition, predation pressure by abundant pikeperch may prevent its recovery.

Over the long term, the fish community of L. Peipsi has shifted from clean- and cold-water species such as vendace, whitefish *Coregonus lavaretus* and burbot *Lota lota* to more pikeperch and bream *Abramis brama*, which prefer productive warm and turbid waters. The smelt *Osmerus eperlanus* population has been gradually declining on a long-term scale. A warming of the aquatic environment, coupled with concurrent eutrophication have decreased reproductive success and increased adult mortality (fish kills) of smelt in Peipsi.

Curriculum Vitae

Name	Küllli Kangur
Date of birth	25.03.1949
Career	
Institution and position held	2005 - ... Estonian University of Life Sciences, Institute of Agricultural and Environmental Sciences; Senior Researcher
Education	1972 Tartu State University, biologist-zoologist (cum laude)
Administrative responsibilities	2002 - ... Leader of the Estonian -Russian joint expeditions to transboundary waterbodies (Lake Peipsi and Narva Water Reservoir) 1998 - ... A member of the working group of monitoring, assessment and research at the Estonian-Russian transboundary water commission 1996 - ... Supervisor of the Estonian national environmental monitoring programme "Monitoring and research of transboundary waterbodies (Lake Peipsi and the Narva Water Reservoir)" 2008 - 2013 Effects of natural and man-induced pressures on the ecosystems of large lakes 2006 - 2007 Quest editor of special issue of Hydrobiologia on European large lakes 2004 - 2007 Principal investigator of the Dutch- Estonian- Russian project "Peipsi and IJsselmeer: mutual reference for long-term management" 2003 - 2007 Supervisor of the Estonian target financed project 0362483s03 "Benthic-pelagic interactions and stability of the ecosystem in large shallow lakes" 2003 - 2004 Partner of the project of Estonia-France collaborative research programme "Parrot" "Diversity and preservation of aquatic ecosystems" 2002 - 2005 Supervisor of the grant nr 4986 of the Estonian Science Foundation "The effect of benthic food web and benthic-pelagic coupling on the state of the ecosystem in L. Peipsi" 2001 - 2004 Partner of the EU 5th Framework Programme project "Mantra-East Integrated Strategies for the Management of transboundary Waters on the Eastern European fringe. The pilot study of Lake Peipsi and its drainage basin "
Research activity	
Degree information	Küllli Kangur, Doctor's Degree, 1978, (sup) Õilme Tõlp, Ecology and productivity of Chironomus plumosus L. in Lake Võrtsjärv (Ecology and productivity of Chironomus plumosus L. in ake Võrtsjärv), Tartu University
Field of research	Biosciences and Environment, Research relating to the State of the Environment and to Environmental Protection
Current grants & projects	Effects of natural and man induced pressures on the ecosystems of large lakes

Contact: kylli.kangur@emu.ee

Notes

HEALTHY LAKES – HEALTHY PEOPLE

Dr Tobias SALATHE, Senior Adviser for Europe, Ramsar Convention Secretariat

Lakes are among the most important wetland ecosystems. Unfortunately, many wetland specialists do not recognize this. Others focus their attention on lake shoreline habitats only, forgetting about the other functions of the freshwater reservoirs constituted by lakes. Maintaining the healthy functioning of lake ecosystems assures us humans with the provision of clean water, healthy food and many other products. Mismanaging lake ecosystems results often in the increase of water pollution, water-related diseases and disastrous floods.

Because there are strong ecological relationships between healthy functioning lake ecosystems and the health of human societies, it is important to develop environmental management strategies that support both the health of lake ecosystems and the health of humans. The costs of poor management can be high.

Often, there are no easy solutions to these management challenges. Developing lasting solutions to ensure that healthy lakes continue to deliver ecosystem services for our benefit, while at the same time meeting the demands for water for growing crops, supplying energy and responding to the needs of industry, requires a finely tuned balancing act. It is important to value correctly the services that intact, healthy lakes supply when decisions on the human uses of available water are made.

Lakes are still under-represented in the Ramsar List of "Wetlands of International Importance". Despite the fact that they are essential for fresh water supply, the maintenance of biodiversity, flood control, groundwater recharge and the mitigation of the effects of climate change. However, the partners in the Living Lakes network are well placed to know better, to help increase the awareness among decision-makers and citizen about the services healthy lakes provide to make people healthy, and to redress the balance, by promoting a better visibility of lakes as crucial wetland ecosystems, also under the Ramsar Convention.

Curriculum Vitae

Mr Tobias SALATHE, Switzerland; joined the Ramsar Secretariat in 1999. Received his MSc. and PhD (Biology and Meteorology) from Basle University and has worked with ICBP (now BirdLife International) and DG Environment of the European Commission, among other posts, and most recently with the Station Biologique de la Tour du Valat in Arles, France. Speaks and writes all of the Ramsar languages and German as well, author of a large number and variety of research reports and other publications.

Contact:

Tobias SALATHE - Senior Adviser for Europe
Convention on Wetlands (Ramsar, Iran, 1971)
salathe@ramsar.org
+41-(0)22 999 01 73 office phone
+41-(0)79 290 26 20 mobile phone
Ramsar Secretariat
28 rue Mauverney, CH-1196 Gland , Switzerland
www.ramsar.org

Notes

FISHERIES AT LAKE CONSTANCE

Dr. Herbert Löffler, Lake Constance Research Institute, Germany

Since medieval times, laws and directions regulate the fisheries and assure the yield from Lake Constance. On 5th July 1893, the Agreement of Bregenz for the international management of the Lake Constance fisheries (Upper Lake) was signed by the Swiss parliament and the governments of Baden, Bavaria, Liechtenstein, Austria-Hungary and Württemberg. These countries decided to co-operate in protecting and increasing the valuable fish stocks and this aim is still unchanged today. It is the oldest known fishery treaty which is still operational .

Nowadays, the German federal states of Baden-Wuerttemberg and Bavaria, Austria's federal state Vorarlberg, Switzerland's cantons St. Gallen and Thurgau and the Principality of Liechtenstein work together in the Conference of International Deputies for the Fisheries of Lake Constance (IBKF). Liechtenstein is involved in the conference because its running waters are important for the spawning and rearing of migrating brown trout. Although the individual countries have partly different opinions concerning the international status of Lake Constance practical co-operation works very successfully. Questions about the division of real estate or condominium of Lake Constance (common property) were and will be aside in favour of the superordinate target. Today the original agreement is supplemented by: (1) Present standing orders (2) Regulations about fishing methods for commercial and recreational fisheries (3) Fisheries management policy.

At present the deputies are appointed by their governments. Every deputy prepares an annual report about the own local fishery results which is given to the deputies community. The deputies are responsible for all management decisions. During their annual meetings immediate problems of lake management and consequences of biological research are discussed. The votes must be unanimous to become national law and consequently binding on the professional fishermen and anglers. The deputies of the countries appoint fisheries experts, research scientists and administrators to advise them. The management principles develop the agreement of Bregenz to a certain extend: The protection of fish stock, constant yield and consideration of the natural variety of the autochthonous species are all equally important objectives. With this additions nature conservation is also taken into account, especially the aspect of species diversity.

For more than 110 years this international co-operation has often proved its worth in managing the problems of the lake until now. The acceptance of biological facts, the responsibility for the common lake, and fair, objective and trusting co-operation have been the essentials of the work of the International Deputies' Conference. Under these conditions current problems can be solved in a satisfactory way.

Contact:

Institute for Lake Research,
Environmental Agency of Baden-Wuerttemberg,
Argenweg 50/1 D-88085 Langenargen, Germany
herbert.loeffler@lubw.bwl.de

Notes

DEVELOPMENT OF SUSTAINABLE FISHERIES IN THE LAKE BALATON REGION: PLANS, POSSIBILITIES AND RESULTS


Erzsébet Székely, Association of Civil Organisations of Lake Balaton, Hungary

The Lake Balaton located on the Western part of Carpathians Basin, with the surface area of 594 square kilometres is the largest freshwater lake in Central- and Eastern Europe. It is a shallow lake, its average depth is 3,2 metres and the water level is regulated by the lock at Siófok. The water catchment area of the lake is 5,775 square kilometres, with the main tributary, River Zala has formed a large wetland called Kis-Balaton. Both Lake Balaton and Kis-Balaton have been protected by Ramsar Convention since 1979.

Fisheries have been a traditional profession for people who have settled down around the lake during centuries. The early memorials tell us about the great quantity of fish and wide variety of fish species in the lake, which was due to the good natural conditions of Lake Balaton and its surroundings. The huge wetlands, one is called Kis-Balaton located on the Western shore, and the other called Nagy-Berek on the South-Western shore could give perfect places for spawning as well as nourishment and protection for young offsprings' growth. The existence and shapes of these lands were depended on the water level fluctuation of Lake Balaton. With the construction of the Sió-lock in 1863, then with the completion of south railway the wetlands became blocked from the lake. Finally the construction of the shore line and canals driven through the swamp resulted in the slow death of Nagy-Berek. Some part of its wildlife moved to Kis-Balaton, the rest fell a victim to modernisation.

The draining of Kis-Balaton in 1922 also dealt the nature a heavy blow but the wetland reconstruction started in 1980 and is still lasting in these days has brought prosperous alteration. The Kis-Balaton with its area of 14.750 acres has an uninterrupted water-wildlife which represents a unique value by European standards as well.

Until present days the occurrence of 47 fish species have been known.

	<p>In the last 100 years 14 non-native fish species were introduced in the lake though few of them were spontaneous immigrant. Currently 20-24 fish species are frequent, but usually 15-17 species are found in fishermen's net.</p> <p>Typical fishes: razorfish, pike perch, asp, wels, pike, common carp, bleak, commom bream.</p> <p>Introduced fishes: eel, silver carp, bighead carp</p>
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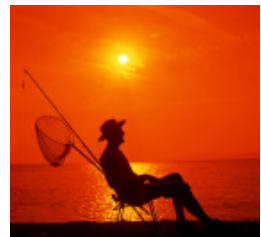
The Balaton Fishery Company was established on 1 of January 1900 for the result of unified fishing usage of the lake and managing commercial fisheries. They also work on the maintenance of fish fauna, amending of natural population and introducing fishes into the lake.

In the last decades the fish population decreased in Lake Balaton which is caused by the main reasons as follows: oligotrophic water, overfishing, fishperdition, lack of waterplants, the lake shore construction, (the total length of the shore is 235 km, of which 107 km is artificially built), the decrease of natural spawning places as well as the unfavorable alteration of the fish size and the structure of population. These facts required us to think over the water and fishing management with a focus on sustainable fisheries.

In order to keep the balance of the ecosystem of Lake Balaton, the protection of natural fish population and native fish strains as Balaton wild carp, prudential fish introducing and regulation of fish population, protection of spawning places are the inevitable measures necessary to be taken. The science of fishes is researched by Balaton Limnological Research Institute, Georgikon Faculty of the University of Pannonia in Keszthely and Lake Balaton National Park.

On the other hand we have to take the fact into consideration that Lake Balaton is the second largest tourist destination in Hungary where more than 18 million visitors spend their vacations from year to year. In this aspect, the fishes of the lake have an outstanding significance in gastronomy and angling as well.

Over the last years the development of angling tourism has been mentioned several times. The capability of Lake Balaton and its surroundings, the oligotrophic, clean water more favourable to angling and bathing than to the economic fisheries. The development of fishing, and tourism as well as the protection of the lake's good condition altogether are not an easy tasks at all.



The only way for the implementation is to follow the guideline of sustainability. To achieve that, we need science based development plans, usable database, information flow, eligible legislation, good control that is to say well coordinated work. It will ensure the economic and cultural usage of Lake Balaton with the protection of its natural ecosystem for long period.

Contact:

Association of Civil Organisations of Lake Balaton
8640 Fonyód, Harmatos utca 20. Hungary
vandor12@fibermail.hu

Notes

MANAGEMENT OF FISH PONDS IN POLAND

Dr. Szymon Szewrański and Dr. Katarzyna Tokarczyk-Dorociak, Wrocław University of Environmental Life Sciences, Poland

Fish pond farming remains to be an important element of economic system in Central Europe since 8th century. Fish ponds, despite being the artificial structures with serious environmental impact, during the years had become significant and valuable environmental elements of the natural ecosystem. Sustainable fish pond management could be an example of the positive environmental changes caused by the land reclamation and water meliorations [Drabinski 2006, Jawecki 2003].

Ponds, originally designed for fish production, during the time had extended their functions and become the seminatural habitats of the aquatic species. There are plenty of such examples in Poland. Milicz Fish Ponds and Przemkow Fish Ponds seem to be the most famous aquacultural farms, where the ecological function is more crucial than economical one. Ecological values of these sites are legally protected by “Barycz Valley Landscape Park”, “Milicz Fish Ponds Reserve” as well as “Przemkow Landscape Park”. Fish breeding and farming in the most farms are based on the natural pond productivity and are carried out with traditional methods and techniques described by Dubisz in 19th century [Bieniarz et al. 2003].

Nowadays the artificial fish ponds remain the important seminatural elements of the environmental landscape. They are recognized as safe habitats for endangered plant species, which are dying in their native environments. Carp ponds, because of the rich and fertile waters are also suitable for many migratory birds which can take a rest there during their migrations as well as find safe breeding grounds. These migratory birds are mostly protected by law in Poland. From the other hand, there is still no significant spatial protection of carp pond farms. Only 9 aquacultural complexes as designed as the reserves. There are: Przemkow Ponds, Milicz Ponds, Wielką Ponds and Tworkow Forest, Nowokuźnicki Pond, Smolnik Pond, Wydymacz Pond, Raszyn Ponds, Stawinoga Ponds, Brozkowskie Ponds, Łęczzak Pond.

From 140 of bird sanctuaries of international importance [*Ostoje ptaków o znaczeniu europejskim w Polsce OTOP 2004*] at least 19 of them are located in fishpond area. The bird sanctuaries are: Przemkow Ponds, Barycz River Valley, Upper Vistula Valley, Ponds in Brzeszcze, Lower Soła Valley, Lower Skawa Valley, Nida River Valley, Roztocze (Tarnawatka Ponds), Upper Łabuńka Valley (60-100 ha ponds in Pniówek, Błonka Ponds and Łabunie Ponds), Tyszowiecka Sanctuary (ponds: Dub, Swaryczów, in Lipowiec) Upper Huczwa Catchment (Łuszczow i Zimna Ponds) Szyczła Valley, Sołokija Valley (30-100 ha ponds in Łaszczówka, Ruda Wołoska, Zatyle, Kornie and Wierzbica) [Bukacińska i in., 1995].

Just only 3 of them are classified as Natura 2000 site – Special Protected Areas (SPAs). There are: The Upper Vistula Valley, Barycz River Valley, Przemkow Ponds.

Originally the fish ponds played economical role, only. Nowadays the more important issue is ecological and environmental influence. Natural wealth and diversity of the old fish ponds are combined effects of hundreds years of functioning and common

operating of man economy and natural forces. Traditional fish farming and extensive pond management seem to be a crucial for sustaining environmental diversity of the aquacultural habitats. Present economical and market policy generates many conflicts between fish farming demands and the nature conservation needs. Plenty of these problems (like fish loses caused by birds, or lower production intensity) can be solved with newly developed financial mechanisms such compensations and aqua-environmental payments.

Contact:

Uniwersytet Przyrodniczy we Wrocławiu (Wrocław University of Environmental and Life Sciences), Poland

e-mail: sionek@miks.ar.wroc.pl, k.tokarczyk@eko.wroc.pl

Notes

ESTONIAN-RUSSIAN COOPERATION IN THE FIELD OF FISHERIES AT LAKE PEIPSI

Ain Soome, Head of Fisheries Department, Ministry of the Environment, Estonia

The formal basis for the cooperation in the field of management of fishery resources in the lakes of Peipsi, Lämmi and Pihkva was launched in 4 May 1994 when the agreement between the Government of the Republic of Estonia and the Government of the Russian Federation concerning the cooperation in the field of conservation and management of the fishery resources was signed.

In order to accomplish the aim of this agreement, an intergovernmental commission of fishing was established which meets as a rule twice a year. The named commission works out the recommendations for coordination of scientific research, determination of total allowable catch for different species and technical measures for conservation of fish stocks such as allowed minimum size for fish to be caught, the percentage for by-catch, establishment of close seasons and areas. The commission may give advice to increase the quantity of fish stocks by restocking and supervises over performance of adopted resolutions.

The recommendations of the Commission shall be bound to the states after thirty days of adoption of its recommendations if during this period neither party has notified of its objection. In this connection it is a pleasure for me to mention that up to now the states have enforced all the recommendations or it means that the states have not raised any objections.

To accomplish its tasks the commission may establish working groups. Before every session of the Commission the common working group of Estonian-Russian scientists will meet in order to work out common measures for the conservation of fish stocks.

At the autumn's session which takes place in November the recommendations for the total allowable catch by different species will be set which is equal in the lake Peipsi and Lämmi for the both states. In the lake Pihkva only the Russian Federation has quotas as a greater part of the territory of the lake belongs to the Russian Federation. The Estonian fishermen catch there on account of quotas of the lakes Peipsi and Lämmi.

At the last session of the Commission it was decided that the scientific and enforcement group will specify the borderline between the lakes Pihkva and Lämmi in order to fix a line from which the fishing is considered to be in the lake Lämmi and accordingly in the Lake Pihkva. At the autumn's session the recommendations for the first half-year will be arranged on the technical measures for conservation of fish stocks, scientific research and common control and enforcement procedures.

At the spring's session which is performed usually in May or June according to the data on catches, the quotas of the current year may be modified. The recommendations for the technical measures for the second half-year will be established.

If up to now usually the spring's session has taken place in Estonia and the autumn's session in Russia, it was decided at the last session that in future spring's sessions will be held in Russia and autumn's sessions in Estonia. As so far the working language has been only Russian language, it was decided that sessions in future will be in parallel in Estonian and Russian languages by means of interpreters.

Economically the most important fish species managed in cooperation with Russia in the lakes Peipsi, Lämmi and Pihkva are pike-perch, perch, pike, freshwater bream, smelt etc. In general the cooperation in the lake Peipsi would be considered as a success as the conservation of fishery resources has been set above current political debates and therefore in the good spirit of cooperation the solutions satisfying the both sides have been compromised. The results of a good cooperation are reflected in a relatively good state of the fish stocks in the lakes. In comparison of fresh water fish (perch, pike perch, pike) species in the coastal zone of the Baltic Sea they are substantially in a better state.

In a relatively good shape are the stocks of pike perch and perch which gives the essential income for fishermen. The bream and pike stocks are in a good shape as other warm water species. The cold water species as haunting, peipsi white fish, burbot, lake smelt are in a poor state. The fishing pressure on fish stocks in the lakes Peipsi, Lämmi and Pihkva is rather intensive. Last year the Estonian commercial fishermen harvested 2008 tonnes of fish in total which is approximately 300 tonnes less than in the year of 2006. Of these 2008 tonnes 890 tonnes of pike perch, 395 tonnes of bream, 345 tonnes of perch, 220 tonnes of roach and 112 tonnes of pike were caught. Together with Russia the total catch of these lakes constituted 6279 tonnes.

In the year of 2006, the commercial fishery in the lakes of Peipsi, Lämmi and Pihkva represented 81% of the total Estonian inland fishery and 48% of Estonian freshwater fishery included the Baltic Sea coastal fishery.

There are approximately 530 fishers engaged from which 90 are the owners of fishing rights. There are too many fishermen in order to get a normal income from fishery. In the situation when the enforcement in the lakes has been strengthened, many enterprises have difficulties to return on investments and cover current costs. Taking into account the state of fish stocks in the lakes, too optimistic investments have been made into fish processing enterprises.

In order to improve the economic situation of fishermen, the prices of the fish caught and sold should be increased. One of the possibilities is to distribute fish through the joint action of fishermen. In the actual situation when fishers sell their harvest to the purchasing agents, an important part to the first buyer's price of fish is added by gains from exchange. The economic welfare of the active fishermen would be increased by reducing the number of fishermen i.e. to cut down the fishing capacity and balance it with the fishing possibilities, taking into consideration actual living standards in Estonia.

In general, the lake Peipsi has proved itself as a very productive fish lake where in condition of reasonable management of fishery resources it ensures an expected income for commercial fishermen as well as the possibilities of fishing for recreational fishermen.

Curriculum Vitae

Name Ain Soome
Date of birth 09/10/1973, Estonia
Phone +372 6260 711
E-mail ain.soome@envir.ee
Family status cohabitation. 1 daughter

Education

1992 – 1997 Estonian Center of Maritime Education – applied higher education qualified as fishery consultant and fishery engineer ;

Practice:

- a) seaman – in Corp.Dagomar fishing vessels in Hiiumaa
- b) fish processing – Corp. Dagotar in Hiiumaa and Sweden Blekingefiskarens AB
- c) maritime practice. Sweden fishing vessels of Blekingefiskarens AB
- d) fish farming – Põlula Rearing Center.

1980- 1992 1st Secondary School of Haapsalu

Years of service

01.01.1998 Ministry of the Environment, officer in Fishery Resources Department,
from Dec. 2001- director of the department

Languages

Estonian Mother tongue
English fluent in writing and speaking
Russian fluent in speaking, medium in writing

Hobbies Basketball, football, music, fishing

Notes

THE IMPORTANCE OF SUSTAINABLE LAND USE PLANNING FOR MIGRATING SPECIES

Arnulf Müller-Helmbrecht, Friends of UNEP/CMC, Germany

Use of land and waters for human purposes is one of the main factors for the decrease of wild animal and plant species. This is a direct consequence of the ever growing human population world wide, the degradation of land in many parts of the globe (this includes the phenomenon of desertification), new areas of agricultural production, eg. agro- or biofuels, technical “progress” and the political progress made in the area of globalization (economies, trade in and transport of industrial, agricultural and other products, people etc.). even the evident climate change is increasing the pressure to use more, even less productive wild land. Sustainable land use planning which takes into account that wild plant and animal species must not be eradicated is vital for the long term conservation of the biological diversity and the survival and well-being of mankind.

Migratory species form a unique component of the global biodiversity since they are mostly belonging to higher taxa, they are dependant on various habitat on their migration, occurring only for a short period of their migration cycle in one place, and therefore mostly not considered as “valuable” components of the respective region by local or regional players.

A key problem of land use planning is that it takes usually place on a local or county level. Local or regional aspects or, very often, particular interests of one or a group of companies are dominant. In many cases the reason for such deteriorated planning and action is mere ignorance of the importance of conserving biodiversity, namely migratory species . Some examples illustrate that migratory species are at risk to get extinct.

Land use planning and utilisation which is not taking into due account the needs of biodiversity or, better, nature is and will remain unsustainable.

Migratory species are best indicators to prove unsustainable land (and water) use. If the breeding and feeding places, the migration routes and stop-over places are being interrupted by barriers, eg. the destruction of one or more step stones, this may lead to the extinction of an entire species or population. Every extinct species means that the the globe’s biodiversity is getting poorer.

What can we do to avoid former and widely current mistakes and to improve the chance that migratory species survive?

In the interests of bringing human needs and those of nature into the best possible balance it is vital that international conservation treaties and local land use planning join forces.

The example of the Convention on the Conservation of Migratory Species of Wild Animals (CMS/Bonn Convention) shows the potential of mutual support to search a balance of human needs and the needs of animal species to migrate.

Curriculum Vitae Arnulf Müller-Helmbrecht (as of 13 February 2008):

German citizen, studied law and economics, as of 1974 in the (Western) German Ministry of Agriculture responsible for forestry policy, hunting legislation, thereafter for constitutional and administrative law, European Community law and policy; as of 1976 working with growing emphasis on German and European environment policy and nature conservation, 1983 responsible officer for CITES implementation.

Same tasks in the 1986 established Western German Ministry of Environment. 1990 advisor for nature conservation, landscape management and soil protection of the Eastern German Minister of Environment. 1992-2004 head of the Secretariat of the Convention on Migratory Species (CMS/Bonn Convention). 2004-2007 staff member of the German Environment Ministry with special tasks. Now retired and assisting the CMS Secretariat in selected fields.

1996 recipient of the Environment Award of the European Nature Heritage Foundation (EURONATUR).

Contact:

UNEP / CMS Secretariat, United Nations Premises
Hermann-Ehlers-Str.10
53133 Bonn, Germany
Tel. (+49 228) 815 2401 / 02, Fax. (+49 228) 815 2449
ulfm-h@cms.int
uuu.m-helmbrecht@t-online.de

Notes

INTRODUCTION OF AN ENVIRONMENTAL MANAGEMENT AND AUDITING SYSTEM (EMAS) IN THE LAKE BALATON REGION

Dr. Gàbor Molnàr and Zita Egerszegi, Lake Balaton Development Agency, Hungary

The Lake Balaton region is working towards a forward-looking environmental strategy using the Environmental Management System (EMS). This process is being led by the Lake Balaton Development Coordination Agency and the cities of Siófok and Balatonfüred and will be applied to the activities and services of the region and local governments.

During the various phases of EMS, critical activities affecting the environment were revised to safeguard environmental sustainability. Targets and programmes were then devised and financial resources committed to promote environmental protection.

The main aim was for LBDCA to obtain EMAS certification in order to fulfil the long-term goal of sustainable management in the region. The Lake Balaton Regional Development Programme and Detailed Development Plan (2007-2013) is used as the basis for the implementation of the EMS. The activities undertaken as part of the MUE-25 project are harmonised with the regional plans to ensure the support of decision makers, politicians, stakeholders and citizens. These actors are most necessary to implementing an effective and sustainable management plan.

EMAS certification is a useful tool to enhance and institutionalise management systems in all types of organisations. Additionally, EMAS will soon be required by the EU for urban areas. By beginning the process voluntarily, the Lake Balaton region is taking the lead in implementing the process both locally and nationally.

The initial step to EMAS certification is to understand how the national and EU regulations are applied and how they affect the process. Next, a local framework is developed to include the Baseline Review, Strategic Program and Action Plan, as well as determine the geographical and organisation extent that EMAS will cover. For this project, the secretariat of the territorial government, the LBDCA, and one of the largest municipalities, Siófok took the initiative to spearhead the process in the region.

The EMAS Easy method was chosen as it is a simplified method, cost-effective and ideal for small organisations. The EMAS Easy method uses resource pooling, while facilitating adjustments and capacity building. A major feature is that aids in the migration of informal management cultures to certifiable management systems.

EMAS Easy revolves around a simple cycle approach of 'PDCA': Plan, Do, Check and Act.

Preliminary Results:

Locally, we experienced a decrease in energy use and the consumption of resources. As the system becomes more integrated and familiar, it is predicted that there will be further reductions. Awareness levels have increased throughout the region and local stakeholders and companies are also adopting environmentally friendly activities. As a result of the project, several municipalities have expressed their interest and requested that the LBDCA assist them in their implementation

processes. Further connections with international partners have also been established through the Living Lake – Eastern Europe Network, as well as other projects and dissemination activities.

Sustainability:

Coordinated development is very necessary when dealing with a sensitive area such as Lake Balaton. EMAS is an effective tool in continuing this development by ensuring that activities are sustainable and environmentally appropriate. The long-term sustainability of this project and EMAS certification are ensured as the project was developed in line with local legislation, policies and strategic development plans. These plans also promote sustainable management which will induce municipalities and organisations to adopt similar systems.

The activities and measures are reviewed regularly using result indicators and adjusted continuously to further sustainable development.

With the establishment of EMAS in the region, a good example is set for the municipalities, institutions and other offices of the region in the implementation of systematic environmental protection.

Contact:

Lake Balaton Development Coordination Agency
8600 Siófok,
Batthyány u. 1.
HUNGARY
Tel./Fax:+36 84 317 002
website:www.balatonregion.hu

Curriculum Vitae

Dr Gábor Molnár

Lake Balaton Development Coordination Agency (LBDCA)
Siófok, Hungary

Tel: +-36-84-313-346

Fax: +-36-20-313-05-58

Email: molnarg@balatonregion.hu

Website www.balatonregion.hu

Gábor MOLNÁR is the Managing Director of the Lake Balaton Development Coordination Agency in Siófok, Hungary. He is a member of the Hungarian Chamber of Engineers and has extensive academic and professional experience in Europe and Asia. He obtained his PhD in Civil Engineering from the University of Tokyo in 1997 where his research focused on the sustainable use of land and water resources. Since then he has worked on several international projects specialising in water and environmental management, hydrology, and GIS and remote sensing applications in environmental problem solving.

Ms Zita Egerszegi

Environmental Director
Lake Balaton Development Coordination Agency
8600 Siófok
Batthyány u. 1.
Hungary

Tel./Fax:+36 84 317 002

Mobile: +36 20 372 3518

Email: ezita@balatonregion.hu

Zita EGERSZEGI, is an environmental engineer at Lake Balaton Development Coordination Agency (LBDCA). She has been working for the LBDCA for 7 years, since the Agency was founded (2000).

Zita is graduated at the University of Veszprém on the field of Environmental Engineering and Chemistry. Her main activities and responsibilities are at the LBDCA: environmental and regional planning, water quality management, wasteland-restoration, development of infrastructure, project management.

Notes

LATVIAN EXPERIENCE IN MANAGING LAKES AND PROTECTED AREAS AND BUILDING LOCAL PARTNERSHIPS

Erika Lagzdina, Regional Environmental Centre for Central and Eastern Europe (REC), Latvia

There are about 3000 lakes in Latvia. Lake as a resource for diverse human activities (water withdrawal, fishery, recreation and tourism, energy production, waste water emission) and as a shelter for nature has to be adequately managed and exploited according to the approved regulations. There is existing extensive legal framework shaping protection and use, as well as ownership and planning of lakes areas. Lakes belong to the inland water resources and are either public or private property in Latvia. Many lakes are protected.

Approximation of EU environmental legislation norms into national legal acts in late 1990-ties opened more wider and systemic opportunities for macro (regional, basin) scale lakes planning, however most of activities, decisions and impacts are still existing on local levels along the coastline of lakes and in surrounding catchment area. Therefore for efficient and sustainable use of water resources comprehensive approach and partnership of all involved stake-holders on local level is needed. This study examines three selected Latvian lakes (Liepaja lake, Engure lake as two coastal lakes and Burtnieki lake) management experience during last decade, looks at institutional models, efficiency of collaboration and achievements in lakes environmental protection field particularly.

Regulatory framework for lakes management

There is certain complexity of planning regulations given by the territorial development and environmental sectors affecting lakes. Firstly, lake as a water body occupying certain territory is important part of overall spatial planning processes carried out primarily on local (municipal) level . Secondly, lake itself is object for more detailed assessment and planning in case of elaboration individual management regulations for this lake as requested by the national Water Management Law. Third dimension comes into effect when lake has some value from biodiversity perspective, and it is located in specially protected nature territory or has protection status itself based on Law On Specially Protected Nature Territories .

Besides above mentioned regulations important norms are include in the Law on Self-Governments defining statutory rights of local authorities to elaborate and enforce binding regulations for use of public lakes within their territories. Without development of such regulations practical use and economic activities around the lake are illegal. As regards private lakes- rights are regulated by the Civil Law. As the last regulatory framework, is river basin management plan what has to be drafted for each of four basin areas in Latvia by end 2008 according to the Water framework directive.

Each of lake examined in this case study is a public lake and belongs to several municipalities, however lakes' coastal lands are mostly private; they have approved

individual regulations for use and nature protection plans (for Liepaja lake plan is under public hearings) .

Use and management of lakes: problems and challenges

Each of three lakes is located in a protected area and is valuable from perspective of nature resources or culture-historical environment :

- Burtnieki lake- North Vidzeme biosphere reserve, catchment area of Salaca river basin, valuable landscape and culture elements, protected area- Nature Sanctuary of Burtnieku lake floodplain meadows with important biotopes covered in EU Biotope directive
- Engure lake – Ramsar site, largest in Latvia coastal lake , very shallow, important place for migratory birds, established Engure lake Nature park.
- Liepaja lake – internationally important place for birds, potentially Ramsar site, coastal lake, valuable biotopes, established Liepaja lake Nature sanctuary.

Due to small depth of these lakes and flood effects on coastal meadows, as well as taking into account abundance of species and biotopes of great importance (all are Natura 2000 sites) , it was extremely important to find opportunities to start sound management of lakes, first of all by attracting financing, elaborating necessary plans based on detailed assessments and consultation processes, and establishing management authority responsible for future lake protection and sustainable management. Good examples of practical achievements during implementation of Life Natura projects in Latvia were examined in the study for Engure and Burtnieki lakes and will be presented during report.

However study showed that each lakes may have different targets for use and different focus on activities what mainly are driven by stake-holders interests. For example, in Burtnieku case major activities are targeted to fish resources management, but in Engure case – on surrounding lands management, for Liepaja- recreational use of lake and environmental education.

It has to be noted that in Latvia case lack of national strategy for integrated coastal zone management (ICZM) has certain negative impacts on coastal lakes and surrounding territories management, it is creating conflicts between land use (construction) and environmental protection needs.

Institutionalisation of partnership for lakes management

Institutionalisation of partnership between statutory actors responsible for land use and territory management and stake-holders being interested in the sustainable development of the territory become more typical practice also in case of lakes management. Models of various actors involved in the lakes management were studied. Those reveal leading role of Latvian environmental NGOs in commencing activities for lakes management. Models of joint management body between several municipalities sharing lake were examined to compare statutory set up and duties of management authorities of three lakes.

Finally it has to be concluded that collaborative management of lakes by involving both institutional players and local inhabitants is the most effective and long tem approach for lakes management, ensuring best available compromise between parties and interests , as well as ownership of results and benefits.

Curriculum Vitae

Erika Lagzdina graduated University of Latvia and got degrees in Physics, MSc. Environmental science and management and B.phil., English philology . In 2007 she entered PhD studies.

Since 1996 she is working as the director of The Regional Environmental Center for Central and Easter Europe (REC Latvia) , her tasks include management of office, project work, contacts with stakeholders, REC mission implementation on national level. Many years she dealt with grant programs for NGOs sector.

Before joining REC, 5 years she worked the University of Latvia Center for Environmental Science and Management and in NGO -Ecological Centre as a manager of international educational projects, also lecturing. She has extensive project work experience in various environmental fields.

During lasts years she implemented many projects related to water management and WFD, like EU Life Environment projects “Elaboration of a New Comprehensive Ziemeļsuseja River Basin Management System Based on Ecosystem Approach and Wide Stakeholders Involvement into Decision-making Process at Local Level” (2003-2005) and project “Barta Club” being responsible for river basin management planning, public involvement, indicators based assessment models (2002-2005). She has international work experience through MATRA financed project “Capacity building for transboundary water resources management in Zapadnaja Dvina river basin, Belarus” (2005-2008) where she works as public participation and capacity building expert.

Ms. Lagzdina works on environmental management at local level, for example, in projects “Environmental Action Plan for Jekabpilis District”, “Preili Region Environmental Health Action Plan” being a project methodological manager, training programmes developer, co-author of the project reports. This experience was transferred to Turkey, Ukraine, Bosnia and Herzegovina through training programmes

She is an expert of sustainable tourism environmental issues, was a team member of Life project “Green Certificate for rural tourism enterprises” (2002-2004); Interreg III C “A Model for Evaluating the level of sustainable development of the European Coast “ (2006-2007), project manager of European Social Fund project “Interactive training for starting business activities based on environmental assets of Selija region” (2005-2006).

Her main topic is Aarhus Convention, NGOs and public participation. She is part of The Access Initiative global network of assessing national practices for PP and access to information and justice (2004-2006). She is a member of the National Commission for Green certificate for rural tourism enterprises, also member of Public Consultative Board of Latvian Environmental Fund.

Ms. Lagzdina has few publications related to environmental education, sustainable tourism and reports in international conferences related to lessons learned during implemented projects.

Notes

LAND USE PLANNING ON REGIONAL LEVEL IN ESTONIA

Taivo Tali, Development and Planning Department, Tartu County, Estonia

The aim of this presentation is to discuss land-use planning framework and practise in Estonia, particularly in regional level, which in Estonian case is a county.

The presentation analyses current situation of land-use planning, its legal instruments, planning structure and different planning documents. It describes concrete land-use planning activities in Estonian counties and local governments, especially in Tartu county. Special focus is made to sustainable land-use development in coastal zones, particularly near the Lake Peipsi and River Emajõgi.

Despite of the working planning system and experience more than 10 years in Estonia there are still many problems in sustainable and correct land-use planning which is also consider public interests and environmental needs. Suburbanisation, an active process of development of private residential properties and the infrastructure have caused big pressure on land-use in protected areas and open space.

Presentation will try to answer on questions what are the main difficulties and results of regional and local land-use planning and what are the possible measures to manage more effectively land-use planning process. Land-use planning in Estonia involves certain new specific legal regulations and planning culture in order to keep land-use protected and open for public.

Contact:

Tartu County Government
Riia Str.15
Tartu 510 10
Estonia
Taivo.tali@tartumaa.ee

Curriculum Vitae

Date of birth: December 27, 1966
Nationality: Estonian
Family: son and daughter
Residence: Tartu, Estonia

Education:

Since 2004: Tartu University, doctoral thesis, Planning

1985–1992: Tartu University, B.Sc., Human Geography

1994–1995: NUTEK, EKE-Ariko, training programme: “Strategic Business Development”

1993-1994: Abo Akademi, course “Urban Environment”

Present position: Tartu County Government, head of Development and Planning Department

Key Qualifications: Regional Development and Policy, Strategic and Spatial Planning, Project Management, Business Strategic Development

Professional Experience Record:

1. Since 2000, Tartu County Government, Development and Planning Department, head
2. 1995-2000, Spatium Ltd., development consultant
3. 1997–1999, EU Phare Estonia Regional Development Project/ Netherlands Economic Institute, project manager (Regional Development Team)
4. 1994–1997, Tartu County Government, project manager (The Development Strategy for Tartu County)

Notes

BALANCE LAND USE AND MANAGEMENT OF PROTECTED AREAS IN LITHUANIA

Kastytis Gedminas, State Service for Protected Areas, Lithuania

The system and the history of Lithuanian protected areas. In developing the system of protected areas Lithuania has chosen an integrated way which is developed for more than fifty years. Though many authors are minded to count the history of PA's even since ancient pagan times when the Holy Woods were proclaimed. The system of protected areas covers the protection of natural and cultural heritage, an animate and inanimate nature, complexes of unique and typical landscape (from natural to urban ones). Such a way is more complicated, but it is pointed out by the international experts that the opportunities are better in this case since most values frequently coexist together, the biological diversity directly depends upon the diversity of inanimate nature (relief, hydrographical network, characteristics of the soil), whereas cultural heritage depends upon the natural landscape. It can be said that since 1992 our PA's have not been isolated. They are the areas organized into a scientifically grounded system. The system of protected areas of Lithuania is characterized as being diverse, representative, integral, sufficient, coherent, and flexible. This enables to implement all new ideas, both national and international ones, and to protect all the values.

According to the Law on Protected Areas, the present system of protected areas in Lithuania consists of the following categories of protected areas:

- 1) The areas of conservative protection priority (strict nature and culture reserves, reserves and objects of heritage);
- 2) The integrated protected areas (state parks – national and regional parks, areas of biosphere monitoring – biosphere reserves and biosphere polygons);
- 3) The areas of ecological protection priority (zones of ecological protection);
- 4) The areas of restorable protection priority (recuperative and genetic territories).

According to the same law firstly the national protected are must be established and only the it is nominated as the site of international importance, i. e. areas protected under the World Heritage Convention, "NATURA 2000" network, RAMSAAR convention etc.

Planning system of PAs. According to the Law on Protected Areas management of protected areas and development of activities in there is executed following the documents of special and strategic planning documents and regulations prepared according to them and following regulations provided for in the Law on the Territory Planning and in the Law of Construction. (See the planning system structure of PAs on Fig. 1 below).

The proper planning system gives a basement for sustainable development and balanced land use in PAs. Very important routine documents for the managers of PAs an for sustainability of different activities are management plans (planning schemes). According to the Law on Protected Areas they are prepared in order to establish directions and means for use and protection of landscape management zones and their regulatory documents for the PAs, for protection of territorial

complexes and objects (values) of the natural and cultural heritage, as well as for landscape formation, recreational infrastructure creation, and also other management means.

Since 2004 EU Structural Funds became available for Lithuania. There was a decision made to attract this support firstly to the planning activities as a basis for further management activities. The support allocated for the period of 2004 – 2006 was used for preparation of 20 management plans for National and Regional Parks and 10 for Reserves. Nearly 150 documents of territorial planning are prepared or under preparation totally during recent 3 years.

There are 118 nature management plans prepared and 48 adopted out of this amount. All State (National and Regional) Parks, Strict Nature and State Nature Reserves have their borders plans adopted. Management plans for all (5) National Parks, all (3) State Strict Nature Reserves and the Biosphere Reserve are also adopted. 11 Regional Parks out of 30 have management plans adopted as well, 18 more are under preparation or prepared but not adopted yet. 44 more territorial planning documents are in force or under preparation for Reserves, Objects of Heritage or internal functional zones of Regional Parks. Establishment procedures for 1 National and 1 Regional Parks are started as well.

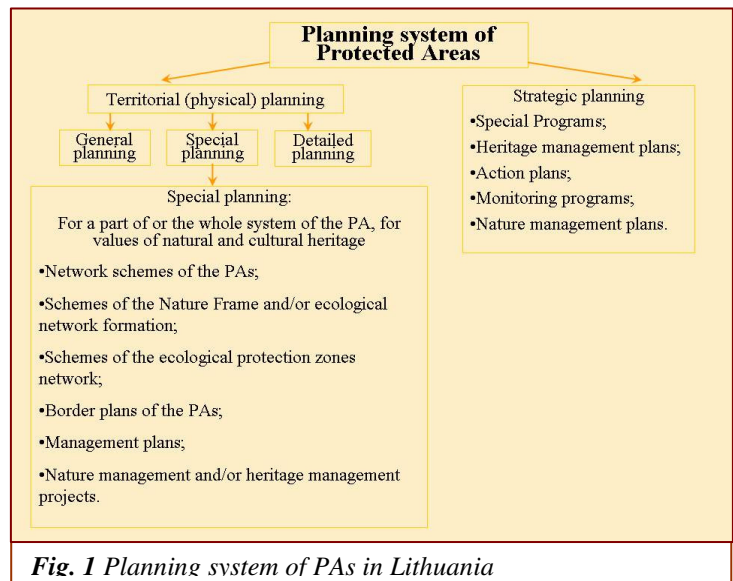


Fig. 1 Planning system of PAs in Lithuania

Management issues. Through Phare and transitional period programs 3 big projects on institutional strengthening and capacity building were gained. Many management measures were implemented (e. g. PA boundary marking by road signs, installation of information stands and observation towers, etc.). Along with the planning many practical management issues are also implemented using the support from the Structural Funds in the places which already have management plans or activities are agreed with stakeholders.

Since 2004 up to now different nature management activities, like mowing, shrubbery cleaning, habitat restoration, etc. were organized in “NATURA 2000” sites (in 20 PAs), installation of visual information system components and minimal facilities for visitors in 13 national and regional parks is done, 9 visitor centres are reconstructed, built or are under construction, 8 violated areas (like with disused quarries, abandoned buildings, etc.) are rehabilitated. Also certain resources were allocated for the monitoring issues while purchasing tools required, creating methodologies, etc.

There are many management activities going on along with that as well involving different stakeholders – especially forestry enterprises but also municipalities, communities and even private sector. Many of those activities are oriented to visitor facilities what lets to optimize the flows of tourists. At the moment there are more

than 300 places to stay (campsites, rest places, etc.) and over 200 nature trails and eco-tourism routes are installed. Many actions in territory (or wetland) cleaning are launched as well. During the Transitional period project on capacity building, the Fund of Protected Areas was established and the Contest “Timeless Values – New Opportunities” was launched.

Abbreviations: PA – Protected area.

CURRICULUM VITAE

1. Family name: Gedminas
2. First names: Kastytis
3. Date of birth: 08 02 1974
4. Nationality: Lithuanian
5. Civil status: Married
6. Education: University education

Institution [Date from – Date to]	Degree(s) or Diploma(s) obtained:
Vilnius University 1996-1998	Master of general geography and land management
Vilnius University 1992-1996	Bachelor of eco-geography

7. Language skills: Indicate competence on a scale of 1 to 5 (1- excellent; 5- basic)

Language	Reading	Speaking	Writing
Lithuanian	1	1	1
English	1	2	2
Russian	3	2	3

8. Present position: Chief specialist of the Protection and Management Division in the State Service for Protected Areas under the Ministry of Environment

9. Key qualifications: Last 10 years I am a civil servant. For this time I was responsible for coordination of protected areas administrations activities in optimization of visitor flows, arrangement of visitors facilities. Up to 2002 (for 4 years) also responsible for rising public awareness activities, international cooperation.

10. Professional experience:

Date from – Date to	Location	Company	Position
2002-01-02 – till now	Vilnius, Lithuania	State Service for Protected Areas under the Ministry of Environment	Chief specialist
1998-06-01 – 2002-01-02	Vilnius, Lithuania	Department of Forests and Protected Areas under the Ministry of Environment	Chief specialist
1998-01-07 – 1998-06-01	Vilnius, Lithuania	Department of Forests, The Ministry of Agriculture and Forests	Chief specialist

1996-02-29 – Vilnius, Institute of Geography GIS engineer
1998-01-07 Lithuania

11. Other information

2007 Diploma in Distance Learning of Geographic Information Infrastructure (2 courses - Basics of GIS & Organizing and Managing the Geographical Information);

2005 – 2006 Coordination of the Phare project “Institutional strengthening and modernization of state protected areas service administrations”;

2002 participation in training course “Management/Administration and Wise Use of Natural Parks (Eco-Tourism)“, held in Japan, organized by Japanese International Cooperation Agency.

1998 – 2000 participation in the project “Lithuanian State Park Institutional Development” co-financed by the Government of Denmark.

1995 – 1996 participation in the project “Recreational survey – Aukstaitija National Park” in collaboration with East Norway Research institute.

Notes

SUSTAINABLE LAND USE STRATEGIES FOR SENSITIVE AREAS IN SPAIN

Amanda del Rio, Fundación Global Nature, Spain

Spanish economic growth is occurring thanks to the land consumption: there is a correlation between land degradation and increase of Gross Domestic Product (OSE, 2007).

In 1986 Spain was fully integrated into the European Union. Some trends in land use during the period 1987/2000 were:

- High increase of artificial soil: 2 hectare per hour.
- High increase of irrigated lands
- Decrease of natural wetlands (3%) and increase of artificial wetlands (19 %).

Case 1: "Tierra de Campos" and "La Mancha" humid zones

High Nature Value (HNV) farmland areas are under pressure from intensification and abandonment. HNV farmland is generally characterised by extensive farming practices, associated with high species richness and or concentrations of species of particular conservation concern.

Intensification, and specially occupation of less productive but environmentally interesting areas, increased dramatically due to Common Agrarian Policy (CAP) subsidies. That was the case of buffer zones around wetlands in "Tierra de Campos" or "La Mancha" humid zones.

These regions are dominated by traditional extensive systems (dry land devoted to cereals, sunflowers and fallow, or Mediterranean crop systems in dry land devoted to vineyards, olive groves and almond trees).

Wetlands in these regions lay on very poor soils (cereal yield < 1.000 kg/ha) as the case of Villacañas lagoons. Fundación Global Nature (FGN) developed a pilot project around Villacañas in order to establish an environmental scheme to be extended to all La Mancha region.

In the past, the buffer zones were used under very low pressure for grazing. And anyway traditional uses were compatible with conservation of endangered species of unique flora and habitats for steppe birds and waterfowl.

The Agri-environmental Program was issued on January 2001. It is based on 9 different measures, applicable throughout the country. During the LIFE project developed in Villacañas and through conversations with farmers some measures were identified as the most practical and applicable. Finally the Regional Administration decided to propose "set-aside" as a single measure for restoring wetland habitats (focused on biodiversity benefits).

The high level of agricultural land in and around wetlands means that maintaining the future value of wetland areas is closely connected with changes in agricultural practice and intensity, and with the maintenance of grasslands. In some cases, agricultural areas may be beneficial, for example in keeping the landscape open and

allowing birds to feed, graze and rest on fields and grasslands. That's the case of wetlands located in "**Tierra de Campos**".

However, it is sometimes more profitable for the farmer to set aside land or to grow certain crops than to enter an agri-environmental scheme with payments for landscape management.

Case 2: The Mar Menor (Spain), where FGN is working, is a coastal lagoon in the SE of the Iberian Peninsula. From the 1960s the lagoon has suffered from a continuous increase of the tourist population (with increased urban waste water discharge) during the summer. Furthermore, there has been a considerable increase of the irrigated land, which has increased the nutrient load to the lagoon. Urban-tourist and agricultural activities are main factors threatening the Mar Menor lagoon and associated wetlands.

In spite of the impacts and transformations suffered historically and recently, through agriculture, mining, fishing, tourism, etc., the Mar Menor continues to shelter species, habitats and landscapes of great ecological interest, in many cases associated with traditional activities compatible with their existence.

Experiences gained in the Mar Menor case study show that traditional activities benefit ecosystems, social heritage and local economy.

Curriculum Vitae Amanda del Río

Education / Professional studies		
Dates (from-to)	Institution	Degree/diploma
1995 - 2000	Universidad Autónoma de Madrid	Environmental Sciences
2002 - 2003	Universidad Complutense de Madrid	Pedagogic aptitude Degree
Professional experience record (mainly in one of the Areas of Activity)		
Location	Date	Organisation
Madrid, Spain	2002 - 2008	Fundación Global Nature
<p>Office Management / company development: Responsible for daily management of Madrid office</p> <p>Wetlands restoration and conservation (<i>Natura 200 sites: Louro and Villacañas</i>)</p> <ul style="list-style-type: none"> • Liaison with stakeholders • Responsible for day to day project management • Fundraising • Communication and promotional activities (design and dissemination of promotional material) • Environmental education: design of educational material, training and evaluation of educational programs • Technical restoration • Social research <p>International Cooperation Projects</p> <ul style="list-style-type: none"> • Application and fundraising • Civil Society Capacity Building and training. <p>Interreg III B SUDOE “Economic and environmental development of Agroforestry systems in south-western European countries”</p> <ul style="list-style-type: none"> • Study research coordination in Spain: social, economic and ecological ecosystems research • Dissemination activities (coordinator of Spanish partners) <p>Application and revision of LIFE projects as</p> <ul style="list-style-type: none"> • LIFE-Environment "Macrophytes" (ENV/E/182). • LIFE-Natura (LIFE04NAT/E/000056) " Preparatory actions and reintroduction of <i>Gypaetus barbatus</i>" <p>Trainings and seminars: trainee, management and design of educational material</p> <ul style="list-style-type: none"> • “Environmentally friendly practices in tourist and recreational facilities and activities” • Training course “Green filter with floating macrophytes for waste water 		

treatment”		
<ul style="list-style-type: none"> • Workshop "Planning and implementation of wetlands management" • 8th Living Lakes conference on "Climate change and governance: main impacts on lakes". 		
Location	Date	Organisation
Valencia, Spain	2002	Tragsa S.A. – Dirección General de Conservación de la Naturaleza (Ministerio de Medio Ambiente)
Responsibilities	Organization: events logistics: <ul style="list-style-type: none"> • Seminar International “<i>Cooperation in Wetlands for Latin-America</i>” • The 8th meeting of the Conference of the Contracting Parties, Ramsar Convention • 17th Biodiversity Global Forum 	
Location	Date	Organisation
Madrid, Spain	1999 - 2000	Universidad Autónoma de Madrid, Spain
Responsibilities	Teaching <ul style="list-style-type: none"> • <i>Environmental Sciences</i>, Universidad Autónoma de Madrid Subject: “Economic world growth and Sustainable Development” • <i>Economics Sciences</i>, Universidad Autónoma de Madrid Subject: " Technological change for Sustainable Development " 	

Notes

PRIVATE ACTORS AND PUBLIC SUPPORTERS: EUROPEAN EXPERIENCES WITH PRACTICAL SUSTAINABLE LAND USE STRATEGIES

Dr. Titus Bahner, European Network, Forum Synergies, Germany

As the experience of Lake Peipsi and Lake Võrtsjärv shows, nitrogen intake from intensive agricultural land use is a major threat to the health of water ecosystems. Furthermore, to diminish nitrogen intake from diffuse sources like agriculture is more complicated than reducing punctual sources. On the one hand, farmers tend to react only slowly to economic incentives, and control mechanisms are difficult to implement. On the other hand, putting restrictions on farming may be seen contradictory to other political objectives like economic development in the rural areas, the number of farming jobs and even the maintenance of social infrastructure in remote areas.

Therefore, a politically viable solution to eutrophication can only be found in taking into account ecological, economical and social aspects simultaneously. This is the principle of sustainability. Sustainable land use can be practiced e.g. by eco-farming, by postponed mowing on wet grasslands for bird protection, by establishment of hedgerows and a network of small habitats, by setting aside linear structures along surface waters, to name a few. It typically goes along with sustainable tourism, local food marketing and a consciousness of regional identity. Compared to sectoral agricultural policy, it is embedded in an integrated policy for the rural areas, known as “sustainable rural development”.

Being a “bottom up” process, sustainable rural development cannot be implemented by government policy or spatial planning alone. Experience in different European countries shows that it depends on local actors that take initiative to find appropriate solutions to local problems, to set up regional marketing or soft tourism businesses and to create non-governmental organisations as partners of government. But in the same time it depends on regional governments that understand the role of private initiative, regard local actors as potential partners and find appropriate ways to support them.

To exchange such experiences, 35 local initiatives, organisations and politicians from 16 European countries in 1995 founded ENESD, the “European Network of Experiences in Sustainable Development”. They produced a multi-lingual exhibition to illustrate different approaches to the idea of practical sustainability and took it on tour across Europe, from Estonia to Portugal, to spread the news and discuss it with many local actors.

The network members included a variety of approaches to sustainable rural development, from economical and social aspects to ecology and local heritage; but they shared the experience that none of these aspects could be pursued in an isolated way. In the field of sustainable land use, experiences included ecofarming (Saidafarm/Estonia, Galgafarm/Hungary etc.), meadow bird protection (Elbtalaue/Germany), protection of endangered landscapes for tourism (Lesachtal/Austria, Hindelang/Germany) or local activity in remote regions (In Loco/Portugal, Mas de Noguera/Spain).

In 1999, the members decided to change the name to Forum Synergies and to establish a non-profit organisation, registered under Belgian law. The name symbolises the idea of exchange between a widening circle of people, plus the synergy that can come from a multi-coloured approach to sustainability.

In its new programme period 2007 – 2013, the European Union puts a much strengthened emphasis on rural development with a clear commitment to sustainability through the Göteborg goals for sustainability.

However, according to the experiences of the network members, the concept of sustainability is not well understood in many parts of rural Europe, and so the rural development programmes will not lead to sustainable results unless there is a far wider understanding of how sustainability can be pursued in practice. This is true for private and non-governmental actors as well as for the government. Sustainable rural development needs learning on both sides.

Forum Synergies in 2007 therefore started a new series of activities with the general aim to “promote practical sustainability within rural development throughout the European Union”. The network is currently widening its partnership with practical pioneers, rural organisations and local governments to set up thematic exchange activities. Interested partners are welcome to contact us. One of the topics will be the participatory implementation of Nature2000 and Water Framework Directive policies.

Contact:

Projektbüro Kulturlandschaft, European Network Forum Synergies
Buchberg 9, 29456 Hitzacker, Germany

ph. +49-5862-94110-33

titus.bahner@lebendigesland.de