

# IV. PLENARY PRESENTATIONS AND WORKSHOP RESULTS

## 1. MEASURING SUCCESS IN IMPLEMENTING THE BIOSPHERE RESERVE CONCEPT

### PLENARY PRESENTATION BY DORIS POKORNY, RHÖN BR, GERMANY

I have been asked to present a 7 minute keynote on the above workshop.

As keynote speeches are meant to provide "food for thought", this intrigued me to present a range of questions rather than trying to find answers, as the latter will be the purpose of the workshops themselves.



© picture: Vogel (bottom: scenario "increase of forest cover"; manipulated picture)

First and most important seems to be the question: What is the success of a Biosphere Reserve?

When looking at the scenario of land use change (see pictures) in a particular Biosphere Reserve the question arises whether or not such a significant increase of forests would per se be positive or not. Would this indicate the success of this Biosphere?

There is no universal answer, as it depends very much on the context: If you are in a Biosphere Reserve in a central European cultivated landscape where open grassland bears a very high biodiversity and provides habitats for flora and fauna, it may be considered a negative change. If you are, however, in a Biosphere Reserve with vast wilderness areas in the core zone, dedicated to the conservation of large wildlife species, an increase of forest in the Biosphere Reserve could be regarded as positive.

Success depends therefore on goals and objectives for each Biosphere Reserve. In order to measure and assess success, we've got to know where we want to go beforehand!

### 1) WHAT TO MEASURE?

Success has many dimensions. Assessing success needs to make clear which of the following dimensions it refers to:

- Effectiveness:
  - have the goals/objectives of the Biosphere Reserve been reached?
  - have there been actions taken, and have those actions been effective?
  - if not, what were the reasons (external or internal factors)?
- Efficiency:
  - related to the outcome, have those actions been efficient as to time and/or money?
- Usefulness:
  - are the Biosphere Reserve goals which were set up ten years ago as such still valid for today or need they be revised?

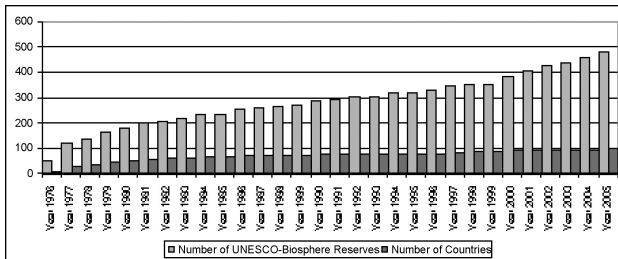
### 2) WHAT DOES SUCCESS OF A BIOSPHERE RESERVE MEAN?

Does it refer to the MAB programme?

Successful projects in Biosphere Reserve?

Successful Biosphere Reserve as organizations or institutions?

Successful Biosphere coordinators? Or other...?



There has been a constant increase in the number of biosphere reserves from 1976-2005 (source: <http://www.unesco.org/mab/brlist.htm> to 10/2005). As the table above shows, biosphere reserves as a programme are tremendously successful as to their constant increase of numbers. This is an indicator of the high acceptance of the idea by the states and regions concerned. As to date, we have 482 biosphere reserves in 102 countries.

Two thirds of those, however, were designated already before the Seville Strategy (1995) was in place. In a step by step approach these areas need to be adapted to the more comprehensive and more complex goals and functions of "modern" biosphere reserves.

### 3) HOW TO MEASURE SUCCESS?

Do we measure success of biosphere reserves, by quantity?  
 by quality?  
 or both?

Which are our points of reference? Again, it is important to know where we are heading before we can state whether or not we are successful. Quantitative goals cannot be defined on an international level, but on a site level or to some extent on a national level. A fully functioning biosphere reserve which meets the criteria laid out in the Seville Strategy could be the starting point. In a second step this could gradually evolve to an exemplary biosphere reserve, serving as a model for others as to one or many aspects. The biosphere reserve

should become a learning site for sustainable development.

### 4) BENCHMARKING

Biosphere reserves as model areas can show practically that sustainable development is an option and that it can be achieved. This raises the question of how "representative" a biosphere reserve is as to which criteria? Which other areas within the same country does this biosphere reserve stand for? Which would be comparable areas (e.g. same ecosystems, same anthropogenic factors and problems, similar land use etc.), for which the biosphere reserve could serve as a model?

Which areas do biosphere reserves "want" to be compared with in terms of benchmarking? Do they refer to areas with other national or international designations, other regions, other biosphere reserves abroad or within the country? In Germany, for example the biosphere reserves are competing very hard with national parks as to funding or staff although their goal is completely different. Yet, biosphere reserves gain more political attention compared to similar areas which do not have the biosphere reserve status.

### 5) OPERATIONAL SCALE AND REFERENCE

What operational scale and reference can we use for measuring the success of a biosphere reserve? The main reference is the Seville Strategy (1995) together with the Statutory Framework (1995) including the Seville+5 (2000) recommendations.

But each state and each individual biosphere reserve needs to take this a step further and develop national criteria and local biosphere reserve goals/visions. They need to be appropriately detailed and will be the main reference base for measuring success. National or site criteria, if useful, may even be more strict than international.

### 6) FUNCTION OF THE PERIODIC REVIEW PROCESS

The Periodic Review is requested within the Statutory Framework. It needs to be done every ten years and can be regarded as an important and

powerful (self-)assessment tool for biosphere reserves. Its main functions are to guarantee the high quality of the "label Biosphere Reserve" in a world wide context, to identify each BR's strengths and weaknesses, to gain (political) attention and/or media attention on different levels.

The Periodic Review process enables Biosphere Reserve coordinators: to identify and assess changes which have occurred compared to ten years ago, to compile what has been achieved and what has been neglected during this time, to find out what should be focused on next (e.g. as a future work plan).

Who decides about success or failure? The biosphere reserves themselves are encouraged to assess themselves. On this basis, the MAB Bureau, considering the assessment of the International Advisory Committee, will then give further recommendations. This helps both the country and the individual biosphere reserve concerned on its way to become not only a fully functioning, but an exemplary biosphere reserve one day.

### 7) SUCCESSFUL BIOSPHERE RESERVES.....

What is the intrinsic value of biosphere reserves and what therefore indicates true success? Is it the program, is it the institution or isn't it rather the idea and philosophy behind it?

Let me conclude with the statement that, most importantly, biosphere reserves are areas which "do make a difference": They are areas which are full of challenges for the coordinators, the local people, and all those who are involved, to leave the well-trodden paths and mind-sets and try out new ways in order to solve today's problems and help reconcile "people and nature".

Isn't the success of a biosphere reserve about enhancing or securing quality of life for all, and providing (future) opportunities and economic and social

wellbeing in an ecologically sound environment? And isn't it success, above all, when local people accept and support the Biosphere Reserve idea, see it as an opportunity, and advance it within the meaning of MaB:

"Myself (my role, my contribution) and the Biosphere?"



With this "food of thought": Have a "successful" workshop!

In the discussion following this presentation, Roland Stein drew attention to the idea of a special periodic review form for transboundary biosphere reserves, which could refer to "measurements" of progress such as the transboundary governance mechanisms and the degree of involvement of the local and national authorities. Stan Boychuk noted that the Clayoquot Biosphere Reserve in which he worked had been established as a mechanism for conflict resolution. With its upcoming 5th anniversary, it was deemed important to measure the progress made in a continuous fashion, and not wait until the 10 year periodic review. This 5 year review would be made using the Statutory Framework indicators and others. MAB Canada and local stakeholder groups would be involved in this review.

### **PLENARY PRESENTATION BY TOOMAS KOKOVKIN, WEST ESTONIAN ARCHIPELAGO BR, ESTONIA**

To measure the success, we first need to define the meaning of word “success” in the case of biosphere reserves. The problem with formalised measuring within the Biosphere Reserve network is that the biosphere reserves belong to very different natural, regional, cultural, political and administrative backgrounds. The biosphere reserves have a multi-dimensional character and the concept itself is rather elusive, which is not easy to describe formally.

Therefore, the answer may sound quite trivial, but there is only one reference point we can apply to all the biosphere reserves. Namely, successful biosphere reserves are those that work well in accordance with the Seville Strategy! Since the biosphere reserves have three main concerns (conservation, development, knowledge), in a successful one all three are incorporated and linked together.

Technically, it would be useful to apply the implementation indicators to estimate the success of a biosphere reserve. This method was used during the periodic review process in the West Estonian Archipelago Biosphere Reserve.

The following is the excerpt from the above-mentioned review:

#### **INDICATORS ON THE ESTONIAN NATIONAL LEVEL:**

- Bio-geographical analysis prepared. Yes, the bio-geographical condition of the Western Estonian archipelago is known and well documented.
- Analysis of need for new or extended biosphere reserves is completed. No, this is probably not even planned.
- Links developed between biosphere reserves. Since there is only one biosphere reserve in Estonia, then this requirement has been fulfilled in another way – both through international co-operation and mutual co-operation between the

reserves. Therefore, yes.

- In situ conservation plans for genetic resources in biosphere reserves. No, this has only been discussed.
- Biosphere reserves incorporated into sustainable development plans. Yes, on county level as well as the national level.

#### **LOCAL LEVEL INDICATORS OF BIOSPHERE RESERVE:**

- Factors leading to environmental degradation and unsustainable use are identified. Yes and no. All in all there was an overview but it was not clearly defined.
- Survey made of the natural products and services of the biosphere reserve. Yes and no. There was no specific research but relevant information and contacts existed.
- Incentives identified for sustainable use by local populations. No. Even the principles of sustainable development were not clear enough.
- Mechanisms developed to manage, co-ordinate and integrate the reserves programs and activities. No, because there were no programmes or projects.

It would be also interesting to know if there exists a kind of generic indicator, which can be easily applied to estimate the success of a biosphere reserve. In my opinion, we should look why biosphere reserves differ from other types of protected areas. The main difference occurs in the involvement of local population, in the strive for the balance between conservation and local development. Therefore, I would suggest to use as an overarching indicator the system of involvement of and governance with local people in the setup of a biosphere reserve.

## 1.1 WORKSHOP SESSION RESULTS

**MODERATOR:** Robb Turner, Southern Appalachian BR, USA

### CASE STUDIES PRESENTED:

Comprehensive experience in Carpathian BR in Ukraine – Fedor Hamor, Victoria Stolpnik (BR manager perspective), Ukraine.

Kristianstads Vattenrike – Sandy grasslands as one of ten landscape types in BR – Sven-Erik Magnusson, Sweden (BR Facilitator perspective).

Measures of management outcome in Sumava BR, Czech Republic – Jaroslav Bohac (View from outside).

### PARTICIPANTS

Catherine Cibien, France

Victoria Stolpnik, Ukraine

Fedor Hamor, Ukraine

Kataryna Sopatu, Poland

Jaroslav Bohac, Czech Republic

Sven-Eric Magnusson, Sweden

Per Olsson, Sweden

Guenter Loiskandl, Austria

Philippe Pypaert, UNESCO Venice

### IDEAS DISCUSSED

Success is BR(s) as “model” – implementor and/or facilitator of the concept

Success is expanding experience to other areas – in vicinity of BR, and/or in other areas/regions

Successful BRs are dynamic entities that evolve and maintain leadership/priority status in developing and providing capacity for attaining conservation and sustainable development in a place

Success as facts/numbers vs measures of “soft/conceptual” criteria and indicators

Capacity to achieve results in conservation and development – indicators such as leadership, communication, institutionalizing processes, long-term outcomes

Measuring change/dynamics

Measuring level of awareness

Measuring success may be clearer at international and local levels, less clear how to do at regional/national levels.

Criteria for measuring success may change with time – as certain goals are achieved, others are set and new criteria and indicators needed.

Evaluation of needed changes may best be coordinated at national levels, with national committees monitoring change, setting goals and criteria that are consistent with the Seville Strategy but that are appropriate to national peculiarities and local needs.

Key need is to measure/quantify/demonstrate links between anthropogenic/natural stress and conservation – to better define what is sustainable development in the context of natural stresses, population/technology changes, and place.

Need to show change in these relationships using scientific manner that can be translated/interpreted to be understood by all stakeholders.

BR success would be increase in awareness of these links and changes/dynamics

“Conceptual Elaboration of the Experience”

Success = institutionalization of process?

Laws, legislation

Policies, procedures

Best practices

Educational curriculum

Social/economic incentives

Success = institutions created?

Authorities

Task forces

Committees

Educational centers

Need for information reporting system

BRIM? Expand to include social/soft factors? Or work with other information system developers to include BRs as one of many types of special areas around the globe?

Web-based access to all programmatic assistance and evaluation of its application – including suggested forms or formats and examples for reporting at various levels, internal/self assessment and external review.

## 1.2 WORKSHOP SESSION RESULTS

**MODERATOR:** Jaroslav Bohac, Sumava BR, Czech Republic

**CASE STUDIES PRESENTED:**

Evaluating and redesigning the research agenda of Austrian Biosphere reserves – Hans Kirchmeier, IPAM, Austria.

Local entrepreneurs and landscape management – Mikael Nordstrom, Archipelago Sea Biosphere Reserve, Finland.

**PARTICIPANTS**

Catherine Cibien, France

Victoria Stolpnik, Ukraine

Fedor Hamor, Ukraine

Kataryna Sopatu, Poland

Mikael Nordstroem, Finland

Sven-Eric Magnusson, Sweden

Per Olsson, Sweden

Guenter Loiskandl, Austria

Hans Kirchmeier, Austria

Philippe Pypaert, UNESCO Venice

Jaroslav Bohac, Czech Republic – Facilitator

**MAIN TOPICS IN DISCUSSION:**

BR as model of sustainable development (SD whom and what).

The local level in case studies prevails. The demonstration of success on local studies is important but the national and international view is needed. The role of UNESCO in it.

The measuring of success is a time consuming and long term process where visions and time schedule have an important role.

Comparative studies on old EU countries, new members of EU and candidates for EU (e.g. Balkan states, Turkey) are needed.

The role of other organisations dealing with BR and supported project on BR (e.g. INTERREG).

Methods of measuring – observation of reality as the basic method in each country and BR.

Outcomes and activities as important marks of success measuring.

Indicators of success – the problems with proposal in working groups here – the lack of time.

Quality life indicators as useful tool for measuring of success (the proposal of GDP as indicators, it is criticised for poor economical basis, methods of ecological economy are needed).

Concepts and its implementation as the indicator of success.

Quality of habitats inside and outside of BR – the important for evaluation of success of BR.

Proposal of topics for the next EUROMAB meeting (Turkey):

Network processes leading to success (case studies from different BR)

Planning and management for sustainable development in BR

Transboundary BR with special interests for South East Europe



## CASE STUDIES

### **EXPERIENCE OF THE CARPATHIAN BIOSPHERE RESERVE IN UKRAINE IN IMPLEMENTING THE SEVILLE STRATEGY, BY FEDIR HAMOR, CARPATHIAN BR, RAKHIV, UKRAINE**

According to the Concept for Biosphere Reserves and the Seville Strategy, biosphere reserves in Ukraine are viewed as a tool for the intergovernmental scientific program "Man and Biosphere". One of its most important tasks is to find a "golden balance" and to conciliate the two main objectives which so often contradict to each other: biodiversity conservation and agricultural interests of local population. And more than that, man must be viewed as an indivisible part of nature, that is why it is extremely important to consider the impact of human activity upon ecosystems, and to harmonize the relationship between men and nature.

It is worth mentioning that in the Ukrainian system of nature protection, protected areas play an extremely important part. Today they cover an area that exceeds 4% of the total territory of the state. Over 7,000 protected areas and sites of different categories function in Ukraine. Among them: 17 nature reserves, 11 national nature parks, and 4 biosphere reserves (Askania Nova BR, Chornomorskyi (Black Sea) BR, Danube BR, Carpathian BR). According to the Presidential Decree "On measures for further development of nature protection in Ukraine" that has been recently adopted, development of biosphere reserves is defined as one of the priority trends in our country. It is envisaged to sufficiently enlarge territory of protected areas, as well as it is planned to establish a number of transboundary protected areas jointly with Romania, Poland, Russia and Belarus.

Biosphere reserves in Ukraine are nature protection and scientific research establishments of international significance. It is especially important that vast territories are given for co-ordination to special BR administrations. For example, 31,900 ha out of total

area of the Carpathian BR (53,600 ha) are managed directly by its administration, which means that the reserve is the owner of these lands and according to the Management Plan conducts necessary nature protection activity, scientific research, ecological education and other managerial measures. Costs are taken from the state budget.

The Ukrainian Law "On Nature Protection Fund of Ukraine" and other decrees and official documents, which regulate the biosphere reserves' activity, are aimed to fulfill these requirements. Problems and gains of Statutory Framework for UNESCO Biosphere Reserves can be illustrated by the experience of the Carpathian Biosphere Reserve (CBR). So, making analyses of the requirements' fulfillment, we'd like to mention that the Carpathian Biosphere Reserve, established by the Presidential Decree on the basis of a nature reserve, under the UNESCO decision, in 1993, belongs to the "old generation" BRs, as the Reserve exists since 1968. The territory comprises 53,600 ha, which is 2.5% of the Carpathian Region. It belongs to one of the largest nature-protection establishments of Ukraine. Unique natural and anthropogenic landscapes protected here stretch from the Transcarpathian lowlands up to highlands of the Ukrainian Carpathians. As we can judge from the results of the CBR's work, it successfully fulfills conservation of beech and mixed beech-spruce virgin forests. Inventory making and scientific analyses show that within the territory of the Carpathian Biosphere Reserve there have been found viable populations of 2,717 species of living organisms, among them: 1,111 species of higher vascular plants, 1,344 species of lower vascular plants, 66 species of mammals, 189 species of birds, 9 species of reptiles, 13 species of amphibians, 26 fishes and almost 15,000 species of invertebrates.

112 species of plants that grow here and 72 species of animals are entered to the Red Data Book of Ukraine, and 28 species are found in the European Red Lists. Prodomus of vegetation of the CBR's territory includes 57 formations and 297 associations,

21 of them are listed into the Green Book of Ukraine.

Results of the investigation also prove that the biodiversity of the Carpathian Biosphere Reserve and especially the number of some populations to a great degree depended on anthropogenic factors in the past, that is why all the measures taken by the Reserve are aimed to reduce a harmful impact of human activity. The most important among them is reduction of disturbing animals and soil damage, which takes place during agricultural works and pasturing in highland meadows. Projects of territorial organization (Management Plan) and the activity of ranger service are aimed to solve these problems. There is also a system of protection, investigation and monitoring that fulfills supervision of the state of populations and species, evaluates natural and anthropic pressures and their dynamics.

Functional zoning of the CBR has been made in order to organize nature conservation effectively and to use natural resources rationally, and also taking into account the value of natural ecosystems, local population's needs and biodiversity being available. Core zone comprises 15,872 ha, which is 29.6% of the territory; 3,015 ha, or 5.6%, belong to the zone of regulated protective regime; the buffer zone covers 15,933,2 ha (29.7%), and the zone of anthropogenic landscapes comprises 18,809,8 ha, or 35.1%.

According to the zoning peculiarities and the Project of the territorial structure, CBR continuously conducts scientific research and monitoring, takes measures on fire prevention, and conducts nature-protective, forest-managing, and other recreational activities. Measures are taken for flora and fauna protection, regeneration of damaged ecosystems, etc.

In its everyday work the administration of the Reserve treats biodiversity conservation as the main tool for the sustainable development strategy. Everything possible is done to harmonize economi-

cal, nature-protective, social and cultural issues in this region.

The problem of "utilization and restriction" in natural resources management breeds lots of conflicts, and the locals sometimes understand it in their own way. Our experience proves that within the protected areas this contradiction becomes stronger. According to the world practice, the Yellowstone approach based upon wildlife ideas and the traditions of Soviet reserves very often threaten the survival of the local population, sometimes putting aside their traditional mode of life. People can even be ousted from their territories, no matter that due to the human factor the ecosystems were created and have been preserved for centuries. The administration of the Carpathian Biosphere Reserve realizes the fact that to succeed in biodiversity conservation we have to promote rational utilization of natural resources and traditional use of land. That is why everything possible is done to bring the Seville Strategy into action in the region, as it will benefit to the official recognition of the local population's rights to land and natural resources utilization. Within the Ukrainian laws we try to give the locals a possibility to use natural resources in accordance with their traditions, and besides we try to involve more people into decision making that might have some impact upon local interests. The Scientific-Technical Board and Coordinating Council of the Reserve take care of these questions. The administration of CBR tightly co-operates with local bodies of government, and works out demonstrative projects on sustainable development.

Achievement of solidarity between local population, bodies of government and the administration of the Reserve in solving mutual problems step by step is the main issue of the projects worked out by the CBR within the recent years. The project "Creation of conditions for ecologically-based sustainable development of the mountainous settlements of Rakhiv district, Transcarpathian region" proves it. It has been worked out and implemented in co-operation with the Rakhiv District State Administration



and the Regional State Administration. The Cabinet of Ministers Decree "On measures as for governmental promotion of the program on ecological, economical and social development of the mountainous Rakhiv district in the period of 1998 – 2005", special decrees of Verkhovna Rada (Ukrainian Parliament) and the construction of the center on ecological education "Center of Europe" are of great importance.

The Carpathian Biosphere Reserve, as one of the most important scientific and methodological centers, does everything possible to promote sustainable development among our legislators and authorities. We also promote highland territories development through the mass media to transform them into legislative documents and include them into programs for educational establishments.

Scientific conferences, workshops and meetings held by CBR are very important in this context. For instance, such international conferences as "Issues of sustainable development in the Carpathian region" (1998), "Ecological, social and economical aspects of natural calamities that have occurred in the Carpathian region (floods, landslides, mud flows)" (1999), "Mountains and people (in the context of sustainable development)" (2002), "Extension of CBR boundaries and optimization of its activity" (2004), International Conference of young scientists "Forests of Eurasia – East Carpathians" (2004), "Ecological and economic aspects of cultural and historical heritage conservation in the Carpathians" (2005) and many other were held. They gave rise not only to new scientific ideas, but also contributed much to the strategy of sustainable development and introduced it on the governmental level. The resolution adopted at our conference in 1998 initiated the Framework Convention "On protection and sustainable development of the Carpathians" (which has been recently ratified by our Parliament). Conception of the ecological-economical "Rakhiv Area" creation, as a model of sustainable development in mountainous regions of Ukraine, which proves the importance of special leg-

islative and economical mechanisms to introduce prosperity to the highland population supported by local governing bodies, by the Transcarpathian Regional State Administration, and also on the Presidential level. I'd like to add that due to the CBR's initiative, the Transcarpathian region was the first among regions of Ukraine to adopt the Convention on sustainable development.

It is important to draw your attention to the fact that almost 100,000 people live in 20 settlements located within the bounds of the Carpathian Biosphere Reserve.

An extremely valuable cultural and spiritual heritage of the nation is concentrated here. It is also the heart of the Hutsul Land, which is famous for its original culture and mode of life. Ancient national traditions, sites of wooden architecture, unique folklore and woodcrafts have been kept with great honor and are preserved till our days in highland Carpathian villages. National cultural heritage of Hutsuls is centered in such villages, as Luhy, Bogdan, Kostylyvka; the town of Rakhiv used to be called a "Hutsulian Paris" in the days of Czech Republic governing. So, the administration of the CBR, within existing laws of Ukraine, supports the traditions of the area in every possible way, and functional zonation makes it easier to fulfill needs of the local population. So, almost 10,000 of sheep and 1000 cattle are pastured in the area of anthropogenic landscapes every year. Households are provided with firewood and hayfields. People can gather here the necessary amount of wild fruits, berries and mushrooms, have some rest and so on.

As you can see, we do everything for the CBR to become the center for conciliation of man and nature – that is to fulfill the needs of local population alongside with nature protection.

Eco-tourism development is one of the most important tasks of the Reserve. Many information centers, 18 ecological tourist routes, 45 rest places, a Museum of Mountain Ecology were created. Today,

the CBR constructs centers of ecological education in the Narcissus Valley, Center of Europe, in Keveliv forestry. We also build a recreational site at the foot of the Hoverla Mountain; a whole network of assistance stations for tourists in the upland areas is being created, etc.

I also would like to add that the development of eco-tourism in particular, and utilization of natural resources of the Reserve in general, are introduced in a way so as not to disturb the ecosystems of virgin forests, as well as areas of rare and disappearing plants' vegetation and animals' habitation. We try to restore qualities of existing landscapes, which have been disturbed before.

The administration of the CBR clearly understands that a decision of biodiversity conservation issues and introduction of sustainable development is hardly possible without improving measures on ecological education. That's why we pay much attention to the logistic support of such activities. With this purpose we have created a department responsible for ecological education in the CBR. Since 1994 we have been publishing a scientific journal known as "The Green Carpathians", we also have a video studio of our own.

The center for ecological education, which was created in the Museum of Mountain Ecology, an ecological camp "Eucos" organized annually, "Plast" organization (Ukrainian Scouts) play a very important part. Much attention is paid to co-operation with the mass media. Every year we publish lots of articles in local newspapers and magazines, special TV and radio programs are produced. And besides, different events for young people are organized.

Unfortunately it is not possible to tell about all the attempts made by the CBR to implement the Seville Strategy. Consideration of the Report submitted by CBR in July 2003 to the Co-ordination Council UNESCO MAB was very important in these terms, as well as the International Conference "Extension of boundaries and optimization of activity of the

Carpathian Biosphere Reserve" organized with the initiative and financial support of the UNESCO Secretariat, which was held in May 2004. I would also like to add that the Carpathian BR was awarded with the European Diploma in 1997 and 2002.

Still, there remain a number of problems. Under the conditions of socio-economic crisis in our country we've got certain constraints with financing and logistics; our authorities do not fully understand the importance of territorial enlargement. There is a great need for sharing experience with other BRs not only in Ukraine, but also abroad. But in general, the activity of the Carpathian BR testifies to an effective and successful implementation of the Concept for Biosphere Reserves in Ukraine.

**KRISTIANSTADS VATTENRIKE BIOSPHERE RESERVE, SWEDEN, BY SVEN-ERIK MAGNUSSON**

The Kristianstads Vattenrike Biosphere Reserve is located in Skåne, the southernmost of Sweden's provinces and covers approximately 100,000 hectares. The Biosphere Reserve includes the lower drainage basin of the River Helgein in the Municipality of Kristianstad and the coastal waters of Hanöbukten Bay, a part of the Baltic Sea. The Biosphere Reserve is situated in a cultural landscape containing a large number of habitat and land cover types on the Kristianstadsslätten Plain and surrounding Achaean rock areas. Many of the values of the area in this cultural landscape are a result of the long-term management of the land.

At the heart of the entire area is an expanse of rich wetlands of international importance (the Helgeån Ramsar Site). Other examples of biotopes that are classified as possessing high biological values of international and national importance include the sandy grasslands formerly managed under a rotational system of cultivation and fallow. These grasslands are concentrated on eastern Skåne, most of them in the municipality of Kristianstad and the Biosphere Reserve.

There are lots of threats of the values concerning the sandy grasslands, for example active threats such as building of houses, roads, golf courses and growing of vegetables such as salad. But there are also passive threats as overgrowing by grass and pine trees when the grazing cattle disappear.

The BR office tries to use the three functions of a biosphere reserve as tools in our work.

The project "Sandy Grasslands" is a rather new project in the BR and in the beginning we use the Logistics support function to inform in different ways about the values. We have just started to construct a demonstration site for the rotational system of cultivation on sandy grasslands. Close to this place there will be an outdoor museum. The nature

school, the website, leaflets and contacts with media will also be part of the information and education in the Logistics support function. Research, documentation and monitoring have already started in different ways in cooperation with universities, farmers and NGOs. Another very important part of the Logistics function in our BR is the Consulting Group, a special group for consultative meetings. This group consists of 25 members, which include representatives from central, regional, and local authorities, the local society and organisations and entrepreneurs. The BR has an important role in the network building.

The Development function. When a project starts in the BR we often look if the municipality owns land that can be of interest. In this case we have recognised several areas of sandy grasslands owned by the municipality. Those areas we propose for new complementary use, for example as areas for recreation, tourism and sometimes for very special usage, as in this project the storage of calcareous sand. Even private owned land is developed for a multi-function. Farmers, riding-schools, golf clubs can also develop valuable sandy grassland areas. Projects have started.

The Conservation function. The BR office has contacted many organisations, institutions and authorities to discuss and implement conservation projects of different kind, for example with World Wide Fund For Nature, Swedish Species Information Centre, Swedish Biodiversity Centre and the local organisation of the Swedish Society for Nature Conservation.

### **IPAM TOOLBOX AND CASE STUDY OF THE ŠUMAVA BIOSPHERE RESERVE, CZECH REPUBLIC, BY JAROSLAV BOHÁ**

The management of the Šumava National Park, Landscape Protected Area and BR has the main responsibility for nature conservation. The phyto-geographical characteristic of the Šumava NP and BR in ČR determines the main characteristic of biodiversity. The borders of Šumava National Park, Šumava Protected Landscape Area and Šumava Biosphere Reserve are slightly complicated and overlapping. Critical biotopes important for endangered species in Šumava BR are: seminatural forests (0.6% of the area), mainly beech forests *Eu-Fagion*, *Luzulo-Fagion*, spruce forests *Piceion excelsae* about 1000 m, waterlogged spruce forests *Sphagno-Piceetum*, forests on rock debris (*Tilio-Acerion*), wetlands (peat bogs), glacial lakes, streams and grasslands. Biodiversity of model groups of plants, birds, mammals and invertebrates (beetles) in three BR of the ČR ([www.infodatasys.cz](http://www.infodatasys.cz)) were compared.

There are differences in the degree of the stage of knowledge depending on the presence of academic institutions. The example of model species click beetle (Elateridae) *Danosoma fasciata* (L.) is given (map of distribution in various time scale). Biodiversity evaluation of model families and biotopes of BR is needed. An example of endangered species and biotopes is provided (Biodiversity of Mrtvý Luh National Nature Reserve – Staphylinidae, staphylinid beetles, the first list of beetles for this Reserve, studies about migration possibilities of invertebrates, the creation of the list of tyrophobionts and tyrophilous species, the proposal of monitoring methods not harmful for invertebrates). The foundation of monitoring plots (2004) is demonstrated in the area of Boubín Mts National Reserve.

Revitalization of meliorated wet meadows and an example of biological indicators for the evaluation of the success is introduced. The effect of pipe drainage on the soil (photo of the cross-section of

soil samples) is demonstrated. Ordination of beetle communities and main factors affected it (wet and meliorated meadows) is the main result. The indicator species of biodiversity are mentioned. The ratio of forested and unforested area – changes in the recent situation and the situation 50 years ago (graphs) is illustrated. The recent situation in unforested area (graph of land cover) is mentioned. The next conflicts with stakeholders over the past 15 years:

- Foresters – bark beetle (*Ips typographus*) outbreak (suitable climatic conditions, damage of forests by emissions) and unstable management during the last 15 years,
- Management of local settlements – problems of ownership of land in the territory of Šumava National Park,
- Hunters and fishermen – conservation of some predators (lynx, otter),
- Businessmen in tourism (regulation of the building of new infrastructure).

The solution of conflicts and the direct role of the Biosphere Reserve is demonstrated: evaluation of biodiversity of model groups of organisms (system of indicators of biodiversity and the foundation of monitoring places),

- Proposition of the management for unforested areas,
- Scientific studies about the effect of the management of the forest on biodiversity,
- Analysis of the work of the management of the park in the past,
- The sociological studies of local population showing that there is no difference in the level of life of peoples living inside and outside of the Šumava National Park,
- The proposal of the integrative management for the National Park and Biosphere Reserve (supported by the Ministry of the Environment ČR also).

The solution of conflicts and the indirect role of IPAM (USB, AS ČR) is demonstrated:

- The new director of the Šumava National Park is

a graduate of our faculty from 2003 (the new management also),

- interest in the scientific research increased rapidly in the last 3 years,
- contact with local stakeholders has increased over the last 3 years,
- regular contacts of colleagues from USB with the director and management.

The socio-economical characteristics of Šumava BR compared with Třeboňsko BR and Křivoklátsko BR are demonstrated on model markers: density of inhabitants (cadastres), continually inhabited houses (cadastres), inhabitants with low education (cadastres), number of cars (cadastres), regular job commuting (cadastres).

Concrete results are presented as:

- scientific papers,
- materials for the Ministry of the Environment on [www.infodatasys.cz](http://www.infodatasys.cz), [www.senát.cz](http://www.senát.cz) (in Czech and English).

#### **LOCAL ENTREPRENEURS AND LANDSCAPE MANAGEMENT, ARCHIPELAGO SEA BIOSPHERE RESERVE, FINLAND, BY MIKHAIL NORDSTRÖM**

Small-scale agriculture and livestock-raising have been an important source of livelihood for people living in the archipelago for centuries. The pastures, meadows, grazing grounds and moors which have been established because of traditional farming and grazing by cattle and sheep constitute the cultural landscape. The oldest cultural landscapes date back to the 16th century. Agricultural activities and especially livestock are decreasing together with the number of the inhabitants in the BR. This will have a consequence on the cultural landscape and negatively affect the biodiversity in the archipelago and the landscape in archipelago villages, and reduce the overall attractiveness of the archipelago.

In 2002, the BR initiated and started a EU-funded project (European Agricultural Guidance and

Guarantee Fund (EAGFF) (from 1.2.2004 to 28.8.2006) which aims to create long-term solutions on how grazing grounds in the biosphere area shall be managed and organized, organize the collaboration between livestock-owners, improve the logistics concerning animal and machine transports, create employment opportunities for local entrepreneurs within the cultural landscape management, give theoretical and practical education for the entrepreneurs, combine landscape management and tourism and take into account conservation aspects. Through the project cultural landscapes have been managed and restored on 10 islands (totally 50 ha) and approx. 30 private land-owners have participated. Local entrepreneurs have been chosen on the basis of offers and plant censuses have been carried out on six sites. Furthermore, three courses for potential entrepreneurs have been arranged and a theme day for the public was held in June 2005 together with a mini-exhibition.

The project has been successful in fulfilling the three goals of the BR concept. The ecological and conservational as well as the cultural through restoring overgrown cultural landscapes and the socio-economic by employing local entrepreneurs which have been given training by the project.

**MONITORING ISSUES IN EUROMAB BIOSPHERE RESERVES, BY RODRIGO MEDEIROS, CATHERINE CIBIEN AND DORIS POKORNY**

The EuroMAB Meeting held in Rome in October 2002 discussed the future of the Biosphere Reserve Integrated Monitoring (BRIM) Programme in the EUROMAB context. One goal was to identify a common thematic list of monitoring issues relevant to most of EUROMAB Biosphere Reserves. It was decided to identify which parameters related to the main coordination and management issues of the biosphere reserves should be monitored, which ones are already monitored, and which ones need to be done. These parameters should be integrative in nature, in relation with the management and sustainable development issues, bridging 'traditional' (abiotic and biodiversity) monitoring with the socio-economic aspects of monitoring in the biosphere reserves.

The French MAB Committee and the Rhöen Biosphere Reserve in Germany carried out a survey as a joint project, with the support of the UNESCO MAB Secretariat. A questionnaire was established and sent to the 225 biosphere reserves of the EUROMAB region (July 2003). In order to bridge the monitoring with the management and coordination issues, the questionnaire asked each biosphere reserve to indicate the three main management and coordination issues, referring to the driving forces, the pressures it causes on the biosphere reserve, the actual state of the problem, and which response(s) would be given. If these main management and coordination issues were already monitored, a brief description of the system was asked.

The results can be summarised as follows: 57 biosphere reserves from 20 countries answered, corresponding to 25% of all biosphere reserves.

Management and coordination issues: In a general way, the problems most biosphere reserves face were very similar:

Effects of agriculture changes, i.e. abandonment of less productive areas (with biodiversity loss caused by lack of management) and intensification of others, (water pollution, land erosion...). Idem for

aquatic productions (fisheries, shells...).

Impact of tourism: urbanisation, waste, impact on habitats, disturbance of animals. These trends were accentuated in island situations.

Water management, quantity and quality. It concerned surface and ground water, river management...

<b>ISSUES GROUPS</b>	<b>%</b>
a. Contamination (air, soil, water)	14
b. Fragmentation	1
c. Animal diseases	1
d. Illegal or excessive collection of species	8
e. Grazing	3
f. Overpopulation of species	5
g. Extinction of species/loss of habitats	7
h. Fire	4
i. Changes in water availability	5
<b>Environmental issues : Subtotal</b>	<b>50.3 %</b>
a. Land use	20
b. Visitor's impact (tourism)	14
c. Urbanisation/territory management	5
d. Lack of specific policies	9
e. Non-compliance with MAB criteria	1
<b>Social issues : Subtotal</b>	<b>49,7 %</b>
<b>Total</b>	<b>100 %</b>

Monitoring issues: Most biosphere reserves monitored a lot of parameters as protected areas, and had permanent plots. They were often biodiversity and conservation oriented. From the sustainable development point of view, some economic, social or cultural dimensions had to be monitored.



	<b>N</b>	<b>%</b>
How many management and coordination issues are monitored?	67	45.58
How many are not?	40	27.21
Not Answered (NA)	40	27.21
<b>TOTAL</b>	<b>147</b>	<b>100</b>

Many biosphere reserves have no management oriented monitoring of the main problems they face. This makes it very difficult to assess management efficiency, and to establish or plan further actions, especially involving the main stakeholders.

**DISCUSSION – CONCLUSIONS:** These results indicated that monitoring tasks were often not clearly linked to the management and coordination issues. Many biosphere reserves presented similar issues, but different ways to deal with them (and even, for some of them, no tools to do that). This offers a great opportunity to promote or stimulate some cooperation between the EUROMAB biosphere reserves, based upon similar needs, profiles and a thematic list of management and coordination issues, and to share potential “know-how”.