

The Emerald Network in Bulgaria

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PART 1: FROM CORINE BIOTOPES TO EMERALD NETWORK

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Introduction

The project CORINE Biotopes was developed in Bulgaria in the period 1994-1998. The benefits were appreciated by Bulgarian part during the preparation of the contract between the European Commission and Bulgarian Ministry of Environment (MOE). The expected outputs covered by the results of the project were:

- The development of the general database for the biological diversity and the sites of European conservation importance of biodiversity;
- complete the national network of protected areas (PAs);
- identification of the sites which meet the criteria of the network of NATURA 2000;
- reassessment of the priorities in the biodiversity conservation set in the National Biodiversity Conservation Strategy and the National Plan for the Wetlands Conservation;
- development of the base for the monitoring of the key habitats and species in the areas rich in biodiversity and of high conservation value;
- summarized information could serve for the development of the theory of conservation biology.

The Core team of the project consisted of 20 experts, 15 out of them were scientists from institutes of Bulgarian Academy of Sciences. The Support team, 20 specialists also, included mainly the people working in the system of MOE - 13 in number.

Sources of information

The main sources of information includes:

- 1 Scientific publications and official documentation - 4081 titles: mammals -265, birds - 163, herpetofauna - 132, fish - 1705, vascular plants - 223, vegetation - 176 and protected areas - 15.
- 2 Archives of scientific and non-governmental organizations (NGOs).
- 3 Personal archives.
- 4 Museum and Herbaria collections.
- 5 Field investigations and monitoring accomplished by the project team in the period 1995 - 1997.

Digitization of the boundaries of the sites

The objective of the digitization phase was to convert the transparencies with delineated biotopes sites and designated areas into digital format, readable from Arc/Info GIS (Arc/Info v.3.4.1). The geographic data base of the CORINE Biotopes – Bulgaria project is a topologically correct data layer labeled according to the presence of CORINE biotopes sites and designated areas in

Bulgaria. This geographic database was converted within Arc/Info into interchange file format (E00), which is a standard export format.

CORINE Biotopes – Bulgaria digital database is 1739kB in size. It contains more than 350 polygons, 100 label points (which are sites with area smaller than 100 ha) and more than 1000 arcs

Specific approaches for the gathering of information and the site identification

The assessment of the conservation importance first was applied to the PAs. They cover 500 000ha, 270 000 ha out of them are covered by the three National Parks and 55 Strict Reserves. 435 000ha are covered by 50 PAs included in the UNESCO List, amongst them 2 sites of the World Nature Heritage, 5 Ramsar sites, 17 Biosphere Reserves.

The natural habitats outside PAs were object of the inventory and the estimation:

- forests (2/3 of Bulgarian forests are autohtone, around 20% are natural or near to the natural);
- mountain woodless zone;
- wetlands;
- territories with high endemism and caves (non-protected).

The Classification of Palearctic Habitats was amended with 86 new elementary taxa specific for Bulgaria.

The experts developed the List of threatened species additional to CORINE CheckList of Threatened Species. The additional list includes 13 fish species and subspecies, 407 invertebrates, 358 - vascular plants. It was verified by the Finnish Environmental Institute, the advisory institution for CEE project countries.

At the same time the Bulgarian experts identified the species of CORINE Check-List of Threatened Species which are widely spread in the country and could not serve as an only site motivation.

Results

1. In the frame of the project *141 sites of European conservation importance for biodiversity were identified and characterized.* (Appendix 1) They cover 1 400 000 ha or 12,6% of the territory of the country. The average single site area is almost 10 000 ha. 83% of the total area of the sites includes 27 sites with the area between 10 000 and 160 000 ha. One third of the total area of the sites is protected (PAs). 95 sites include Protected Areas with the total area of 460 000 ha or 90% of the protected territory of Bulgaria

2. Geographical and biome distribution of the sites

2.1. Geographical distribution - made on the base of 27 sites with the area over 10 000 ha, sufficiently representative because they cover 83% of the total territory;

- Mountains in South-Western Bulgaria (basically Rila-Rhodope massif) – 13 sites with 44% of the area of the 27 sites;
- Stara planina region (with Fore-Balkan and Sredna gora) – 6 sites with 26% of the area;
- Low mountains in South-Eastern Bulgaria - 6 sites with 23% of the area;
- Plain regions - 2 sites with 7% of the overall area.

2.2. Biome distribution

- **Mixed mountain system with complex zonation** – 19 sites; in 18 of them the denivelation exceeds 1 000m, in 3 – Rila, Pirin and Central Balkan, is approx. 2 000m. This biom contains as most important for conservation habitats the following:
 - **Boreo – mountain coniferous forests: massifs** over 10 000 ha in site Pirin, Bataska planina and Mursalitsa, and over 50 000 ha in West Rhodopes and Rila.
 - **Nemoral mountain broad-leaved forests** (predominantly of *Fagus sylvatica*) – massifs over 10 000 ha in 6 sites and in Central Balkan over 100 000 ha.
- **Temperate broad-leaved deciduous forests** (mainly mixed oak forests): massifs with area over 10 000 ha in 4 sites and over 50 000 ha in site Ludogorie
 - Sub-biom **Broad-leaved deciduous forests with evergreen tickets (of south-euxinian and subeuxinian type)** – massif of over 100 000 ha in site Strandja.
- **Mediterranean sclerophilous forest and shrubs** in Kresna site.

The forests cover 68% of the total area of the 27 sites.

Importance of CORINE Biotope sites for the biological groups and priority sites

- **PLANTS** – 55 sites of botanical value (in 12 of them high plant endemism) are identified; 13 of them have been selected only because of their botanical importance.
- **INVERTEBRATE** – 14 sites hold 25 – 70 species of value: Pirin, Rila, Belassitsa, Kresna, Slavyanka, West Rhodopes.
- **FISH** – 38 sites are very important for the conservation of the species of this group. The most of the sites are placed on the Danube valley and its tributaries (25-29 valuable fish species) as well as along the Black sea coastal. In the rivers within the Aegean Sea catchment area and water reservoirs in Tracia freshwater fish are represented by 6-12 species.
- **AMPHIBIANS AND REPTILES.** 9-12 amphibian species are presented in 7 of the sites; 27 sites have high conservation value for the reptiles. Over 20 valuable species – sites Byala reka, Malkiya Kojuh, Kresna, with 15 species – the little site Nadejden.
- **BIRDS** – 66 of the sites are important for nesting, wintering and migrating ornithofauna. For the nesting bird species: Kresna, Valley of Arda river, Pirin, Dobrostan-Prespa, Rila, Byala reka. High value as wintering places: Ovcharitsa, Konush, Maritsa islands etc. High value as migratory stations: Malkiya Kojuh, and Kresna on Via Aristotelis, Valley of Arda river, Pyasachnik, Maritsa river, Rozov Kladenets.
- **MAMMALS** – 48 sites have high conservation value (for bats – 34, for large mammals – 16, for steppe mammals – 6, for sea mammals – 3 sites). 17 sites were selected only because of the presence of bats (caves and one mine gallery with large colonies – up to 20 000 individuals). 10 sites hold the largest number of valuable mammal species – 23-36sp: Rila – 28sp. and Dobrostan-Prespa – 23.
- **HABITATS** - significant conservation value in 63 sites (45% of all sites). For 15 of them the habitats were the only motivation for their selection. The richest in habitat diversity are the sites Dobrostan-Prespa, Pirin, Kresna, Rila, Valley of Arda river, Slavyanka etc.

With regard to the main motivation for their selection the sites have been classified in the following way (Appendix 2):

- Botanical - 13 Sites
- Zoological - 53 Sites
- Habitat - 23 Sites
- Zoo – Botanical - 11 Sites
- Habitat - Zoological - 24 Sites
- Complex motivation - 17 Sites

Outputs of CORINE Biotopes project as a basis for EMERALD Network development

- 1. *The assessment of the conservation value*** of the CORINE Biotopes project sites was done in order to set the priorities measures to be undertaken for the conservation of the most important for the biodiversity sites, including by the designation of the PAs. The assessment was done for each of 141 sites. The total score was a sum of the scores estimating the level of the importance for conservation (in points) for each biological group and habitats presented in the site. Applying the criteria of the methodology 47 sites have the high and 33 – very high importance for conservation (Appendix 3). Out of the 12 most important CORINE Biotopes sites, 7 are in Rilo-Rhodopean massif: Rila, Pirin, Dobrostan-Prespa, Kresna, Valley of Arda river, West Rhodopes and Byala river (territories between 17 000 and 138 000 ha).
- 2. *Vision for the optimal development of EMERALD Network in Bulgaria:*** Bulgaria is one of the 5 European countries with the highest biodiversity and natural ecosystems. At the same time this diversity is endangered by the plundering of the natural resources during the continuing transition period. That is why in spite of identification of ASCIs the safer forms for conservation of biodiversity are necessary for the priority CORINE sites, such as PAs. National network of CORINE sites gives the possibility for:
 - A. Enlargement of the existing PAs, which form part of CORINE site;
 - B. Establishment of the new PAs including via merging neighboring CORINE sites.

The analysis of the potential for the increasing the PAs in Bulgaria on the base of priority CORINE Biotope sites shows as realistic following suggestions: 10-13 Nature Parks to be designated, National Park Pirin, 5 Nature Parks and less PAs to be enlarged as well as pre-park zones to be established for the three National Parks.

In general, over 60 territories with the overall area of 1 250 000 - 1 350 000 ha are foreseen.

The building of the EMERALD Network needs:

- Development of the legislation mechanism: adoption of Act for Biodiversity for the regulation of conservation of biodiversity outside PAs. It should interpret international Conventions and EC Directives related to biodiversity and envisage the ASCI establishment.
- The willingness of Bulgarian Government, respectively MOEW, to direct the work to the establishment of the national EMERALD Network as an important step on the road to the accession of Bulgaria to European Union. In this development National Nature Protection Service and the experts experienced in the field of biodiversity conservation will play extremely important role. The recently announced intention of the Danish Agency DANCEE to finance the project for the identification of ASCI, coordinated by MEW – NNPS with the partner organizations such as – Ministry of Agriculture and Forestry (MAF), municipalities, NGOs etc. raise the hopes in this respect.
- The process of the development of the national ASCIs network needs the synergy between the activities of previous item and the projects and activities for the sustainable development of the municipalities inside ASCI proposed for EMERALD Network.

List of Appendices:

Appendix 1: Map of CORINE Biotopes sites and designated areas in Bulgaria

Appendix 2: Map of Motivation for CORINE Biotopes sites localization in Bulgaria

Appendix 3: Map of Biodiversity conservation importance of CORINE Biotopes sites in Bulgaria

PART2: **THE IMPLEMENTATION OF THE EMERALD NETWORK PILOT PHASE IN BULGARIA**

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The Secretariat of the Bern Convention organised in September 1998 in Ljublyana the workshop for the assessment of the results of CORINE Biotopes project and to discuss the transition to development of EMERALD Network. Ms Stella From, the advisor for PHARE funded CORINE Biotopes projects (CEE countries), outlined the overall picture of the project and the national databases. At the end of her presentation she underlined that the Bulgarian database is the most complete and the richest one. The Bulgarian team was happy to hear such high estimation of our work.

Admittedly at this Workshop the Secretariat of the Bern Convention proposed Bulgaria to be a model country for the exercise of the pilot implementation of the methodology of EMERALD Network development.

The EMERALD Network is the network of Areas of Special Conservation Interest (ASCIs), which is to be established in the territory of the Contracting Parties and Observer States to the Bern Convention, including among others Central and Eastern European countries. The implementation phase of the EMERALD Network started in 1999. The years 1999-2000 should mark the pilot stage of setting up the EMERALD Network, supported by the Council of Europe. In 1999 pilot projects started in the following pilot countries: Bulgaria, Russian Federation, Slovakia, Slovenia, Turkey. In addition Iceland showed considerable interest in joining the Emerald.

The overall objective of the Emerald Network pilot project is to develop a pilot database, containing the fair proportion of the ASCIs and submit a proposal for the selected sites designation to the Standing Committee of the Bern Convention. The pilot projects is only a starting point that lays a basis for the development of the Emerald Network at the national level.

The task to co-ordinate the EMERALD process in Bulgaria rests with the Ministry of the Environment and Water (MOEW) and its National Nature Protection Service (NNPS) Department as the national Governmental institution responsible for the biodiversity conservation.

In late autumn of 1999 NNPS hosted in Sofia the Workshop with the participation of the staff of NNPS and the representatives of non-governmental organisations (NGOs) working in the field of biodiversity conservation. The Workshop was led by Katia Skripnichenko – Secretariat of the Bern Convention, and Mark Roekarts –expert of the European Commission. The main objectives of the Workshop were:

- Presentation of the objectives and the methodology for building up the EMERALD Network;
- Approbation of the software for EMERALD Database.
- Preparation for the pilot implementation of the EMERALD Network methodology

After the installation of the EMERALD software, which was still under the development, Mr.Roekarts demonstrated the connections between it and the Database of CORINE Biotopes. The categories of protection adopted in the Bulgarian Act of Protected Territories (1998) were also input.

From December 1999 to the end of March 2000 the pilot implementation of the EMERALD methodology on seven CORINE sites selected by NNPS for this purpose. The pilot sites were Atanassovsko lake, Kamchiya, Kupena, Ostritza, Shabla, Srebarna, Topchiite.

Following the procedure for the creation and building up of the EMERALD Network (Appendix1) at the late December 1999 the Head of NNPS invited Geko Spiridonov to lead the process of pilot implementation of the EMERALD methodology. The team of 9 experts in different biological

groups and habitats and one coordinating person was built. All of them were experienced in CORINE Biotopes project. Further the team followed the steps of the procedure as presented at the Appendix1. It gathered the information about the pilot sites, made the required site assessments and filled in the Standard Data Form. The input of the data into the pilot database was done by the people from NNPS.

It worth to mention some features of the EMERALD Network and Database.

- Selection of the potential Areas of Special Conservation Interest is based on the identification of the species listed in Resolution No. 6 (1998) and habitats listed in Resolution No. 4 (1996) and the information on their location. The information about other important for conservation species and habitats is also welcome in the scope of the information on the potential ASCI but it is not estimated in such details.
- The Standard Data Form requires filling in a lot of detailed information concerning the site, such as:
 - ~ site name, location, surface area, length and altitude;
 - ~ administrative and biogeographic region;
 - ~ habitat types from Resolution No. 4 (1996) and species covered by Resolution No. 6 (1998) present on the site and site assessment for them;
 - ~ information on other important species (if relevant);
 - ~ general site character, quality and importance of the site and its vulnerability;
 - ~ ownership of the lands of the site;
 - ~ site protection status at national and regional level and relationship with CORINE Biotopes sites;
 - ~ information on impact and activities in and around the site;
 - ~ map of the site.
- Software provides the tools to convert the data directly from CORINE Biotopes datafiles to EMERALD Database. This exchange option can be used when the potential EMERALD site fully coincides or includes the CORINE site. This option eases the process of the data input.

Building up the database of selected sites and Designation of sites to the Standing Committee (National Pilot list) were the last steps of the pilot phase of EMERALD in Bulgaria. NNPS shared the information that the submitted proposals were approved by the Standing Committee as a pilot implementation of EMERALD methodology. So Bulgaria has a green light to proceed further developing the National list of potential ASCIs.

The good news was that the Danish Agency DANCEE expressed the willingness to support the development of the EMERALD Network in Bulgaria. In June 2001 the mission arranged by DANCEE organised in Sofia series of meetings and discussions in order to design the future EMERALD Network development project. The people from different levels of responsibility and knowledge participated: Governmental organizations (MOEW, MAFAR), Bulgarian Academy of Sciences, non-governmental institutions. This extended base of the discussions makes us to be optimistic about the development of the EMERALD process in our country.

APPENDIX 1

Procedure to be followed by the Contracting Parties and Observer States to the Bern Convention for the creation and building up of the EMERALD Network

