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REPORT
on the implementation of the CoE/EU Joint Programme "Emerald Network of Nature Protection Sites, Phase II" in Ukraine in 2013

by Leonid Protsenko, Director of InterEcoCentre

Introduction

The Administrative Arrangement between the Council of Europe and the NGO Interecocentre ("the Beneficiary") was signed on April 12, 2013. The subject of this Arrangement was a Council of Europe grant in aid of a maximum of € 65,000 from the Council of Europe as payment for the expenses to be met for the implementation of the activities foreseen during 2013 in Ukraine (hereinafter referred to as "the Activity") as part of the Joint Programme between the European Union and the Council of Europe for the Preparation of the Emerald Network of Nature Protection Sites, Phase II.

The outputs of work under this Administrative Arrangement in 2013 had to be:

- Organisation of a technical meeting between the project Emerald team and the Joint Programme Manager and scientific coordinator.
- Sites database for additional Emerald sites with all data as defined in the Standard Data Form, including their digital boundaries;
- Contribution to the consultations on the guidelines on Emerald Network sites' management, reporting and monitoring mechanisms;
- Final Emerald sites database completed and delivered to the Council of Europe through the EIONET CDR, including corrections of data and :
  - Finalisation of the distribution per biogeographical region and populations in each country of all species and habitats of Resolutions Nos. 4 and 6 of the Bern Convention and Annex I of the Habitats Directive;
  - Validation of distribution GIS maps of species and habitats already delivered through the 1st Joint Programme (2009 -2011) and creation of additional maps for a new selection of species and habitats;
  - Finalisation of sites database for all the sites with all data filled in, as defined in the Emerald Network Standard Data Form;
  - Finalisation of digital boundaries for all sites in GIS;

1. Methodology

The methodological aspects of the project implementation were discussed at the technical meeting in Ukraine held on April 25, 2013. 18 persons were invited, including experts, scientists, NGOs, representatives from Ministry of Ecology and Natural Resources of Ukraine (MENR), etc. The attendance register is attached to this narrative report. Based on the discussions held during the meeting, and later on with experts and other stakeholders, the following approaches and methodologies were identified and used for Activity's implementation.

1. To take into account the information "Summary quality check Emerald Sites Database for Ukraine" provided by Mr.Roekaerts. The information gave detailed indications on the technical quality and completeness of the Emerald Sites Database prepared by the Ukrainian Emerald Team in 2011.

2. In order to identify the representativity gaps of the Emerald sites proposed up to 2011/2012 the Ukrainian Emerald team compiled table "Checking the Reference Database" in the following format:

Table 1: Reference Database Check

	Species number	**SITECODE**	**Tables**		
			BioReg	**Population**	**CNTRYUA**
Mammals	1373	UA0000005	-	-	+
Mammals	2612	-	+	+	-

Amphibians	2001	UA0000013	-	-	+
Habitats	D4.2	UA0000034	+	+	-

This table included analyses of all species and habitats available in the Emerald Site Database delivered in 2011. If the habitat or species was represented in proposed Emerald Sites and was available in tables BioReg, Population and CNTRYUA it was marked by "+" and it meant OK. Minus said about absence of data in the respective table or absence of species or habitat in all Emerald sites. If a species was not represented in any from 151 Emerald Sites it was a signal to create a new potential Emerald site inhabiting this species. Based on this compiled table experts received the corresponding tasks in their TORs in order to fill in gaps.

3. Resolution No. 6 (1998) of the Bern Convention was updated in 2011 and new species appeared. The experts identified 41 new species meeting in Ukraine. The task was to identify in which sites these new species available and identify species which were not represented in any from the existing 151 Candidate Emerald Sites. If species were available in existing sites, the experts would to do in traditional way and to fill in corresponding tables (BioReg, Population). If species from Resol.6 were available in Ukraine but they were not represented in existing sites, the new methodology had to be used (described below), how to identify areas and borders of new Emerald Sites, where these species existed.

4. The assessment confirmed that there were 16 problematic species of vascular plants and mosses (all species of animal and habitats were covered by 151 Emerald Sites). Careful analyses and search of new data for these species was made by an expert Mrs. Tarasova-Krasieva. Scientific publications confirmed availability of some from problematic species in existing Emerald sites; some species were excluded from the list of existing species in Ukraine (e.g., the species Rheum rhaponticum exists only in botanical gardens). There was found out that 5 species did not exist in 151 sites. These plants were endemic species and they had only from one to a few localities in Ukraine, e.g. *Lepidium turczaninowii Lipsky* occurred only in four localities in Crimea, *Genista tetragona Besser* occurred only in one locality near the border with Transniestria. The expert identified areas on the maps where these 5 species existed and provided information on these species. The field trips were undertaken to check availability of species. Based on information she proposed sites – potential new Emerald Sites, having these species. The GIS expert Mr E.Ivanenko developed exact borders of this new potential Emerald Sites. Further, the team of experts (species and habitats) worked to identify species and habitats from Resolutions No. 6 and No. 4 in the proposed new potential Emerald Sites. The activities resulted in preparation of database and maps for 8 new Emerald Sites.

5. Validation of distribution GIS maps of species and habitats already delivered through the 1st Joint Programme (2009-2011) was made based on two approaches. The first one was traditional – overview of publications, especially new ones. The second approach was somehow new. The GIS expert created maps of all Emerald sites into Google Earth (satellite images) and converted all submitted distribution GIS maps into Google Earth too. Consideration of distribution maps in Google Earth allowed checking availability of species within borders of Emerald sites and checking correctness of the distribution maps. The problem was that all delivered distribution GIS maps were initially only in a paper format with various scales. The GIS expert in 2009-2011 only digitized the paper maps. Initial analyses of distribution maps in 2013 showed some mistakes in species distribution, e.g. a sign (mark) of fish could be found in a field instead of a river, a plant species could be found in a middle of town, etc. The team of experts (botanists <plants and habitats>, ornithologist, ichthyologist, expert in invertebrates, mammals, amphibians), received a task to check correctness of distribution GIS maps using satellite images and borders of Emerald Sites on images as well as scientific publications about distribution of species and habitats. The expert Mr I.Sirenko with other has dealt with distribution GIS maps.

6. Finalisation of digital boundaries for all sites in GIS and development of maps of new Emerald Sited was made by GIS expert Mr E.Ivanenko. The problem was the same as for distribution maps - practically all delivered GIS maps of Emerald sites in 2009-2011 were initially only in a paper format with various scales and sometimes without scale (only a few years ago maps of small scales became non

secret). In many cases the Emerald Site had to have the same area as the existing protected area. It meant that the expert had to create such GIS map of Emerald Site, which had the same area as existing protected area. There were a lot of other challenges with data, not correct paper maps, designation data, etc which the expert had to overcome.

7. The last but the most important - finalisation of the distribution per biogeographical region and populations of all species and habitats and finalisation of sites database for all the sites with all data filled in. This exercise was made by a team of 7 experts (botanist, ornithologists, ichthyologist, etc). Outputs from the experts were uploaded in the Emerald Database. Then data for Emerald Sites which had a status of a protected area and available administration were selected and sent by the MENR to administrations of Protected Areas (nature reserves, biosphere reserves, national nature parks) for verification. Unfortunately the task was very hard for many of them (absence or low qualification of scientists there, lack of data, other circumstances) and verified data did not arrive in time (one park sent a response on January 31, 15:00). In the right way the verification data should be assessed by experts when staff of the site changed data of experts, because qualification of the expert team is higher than qualification of protected areas' staff, however in some cases the staff can have more information or non published data. Sometimes expert will have to discuss the data with staff. All these steps need more time and we hope that this very useful verification will be completed later.

8. The implementation methodology was described above. Here some technical issues of implementation will be mentioned. Interecocentre was working to engage best experts, contracting them, creation of the clear and reasonable system of reporting. The Emerald Team consisted from the experts working in 2011 and some new experts. Among new experts were additional ornithologist, visibility expert, and management planning expert, expert on protected areas and one new and one previous GIS expert.

The list of all experts is below

Speciality (numbers from Budget Lines)	**Name of expert**	**Assignment**
5.1. Botanist (plants)	T.Solomaha, Ph.D.	All tasks with verification of data on vascular plants and mosses in 151 Emerald sites and Emerald database, data on distribution maps, submission of data on new sites, identification of new species for Ukraine in resol.6 (2011), etc
5.2. Botanist (habitats)	V. Onishchenko, Ph.D.	All task with verification of data on habitats in 151 Emerald sites and Emerald database, data on distribution maps, submission of data on new sites, identification of new species for Ukraine in resol.6 (2011), etc
5.3. Ornithologists (birds)	O.Yaremchenko, Ph.D.	All task with verification of data on birds in 1-100 Emerald sites and Emerald database, data on distribution maps, submission of data on new sites, identification of new species for Ukraine in resol.6 (2011), etc.
	V. Kostiushyn, Ph.D.	All task with verification of data on birds in 101-151 Emerald sites and Emerald database, data on distribution maps, submission of data on new sites, identification of new species for Ukraine in resol.6 (2011), etc
5.4. Zoologist (mammals, amphibians, reptiles)	O.Dudkin, Ph.D.	All task with verification of data on mammals, amphibians, reptiles in 151 Emerald sites and Emerald database, data on distribution maps, submission of data on new sites, identification of new species for Ukraine in resol.6 (2011), etc
5.5. Zoologist (invertebrates)	O.Chervonenko, Ph.D.	All task with verification of data on invertebrates in 151 Emerald sites and Emerald database, data on distribution maps, submission of data on new sites, identification of new species for Ukraine in resol.6 (2011), etc

5.6. Ichthyologist (fishes)	O.Boltachev, Ph.D.	All task with verification of data on fishes in 151 Emerald sites and Emerald database, data on distribution maps, submission of data on new sites, identification of new species for Ukraine in resol.6 (2011), etc
5.7. GIS expert (maps, sites' boundaries)	E.Ivanenko Post-graduate student	Finalisation of digital boundaries for all 151 sites in GIS, development of maps for new Emerald Sites, development of Goggle Earth Maps for 151+8 Emerald sites, identification of geographical centers, area in hectars, etc
5.8. Database expert	A.Zheleznyi	Upload and download data in Emerald software, etc (total 11 tasks in TORs)
5.9. Expert in protected areas	A.Tarasova-Krasieva	Identification of species available in Ukraine but not represented in Emerald database, including new ones from resol. 6 (2011), description of their habitats, abiotic factor, localities, publication, etc. Development of new potential sites and selection of their location with maps, etc
5.10. Experts (management planning)	Yu. Nesterov	Development of draft guidelines for management planning of Emerald sites
	I. Sirenko	Development of chapters on involving stakeholders for development of management plans, validation of distribution GIS maps of species and habitats already delivered in 2009 -2011 and creation of additional maps for a new selection of species and habitats
5.11. Visibility expert	T.Zykova	Visibility activities on the status, problems and prospects of the Emerald Network and the status of the project by preparing publications, presentations of information about project on teachers' events, etc

The contracts were concluded with these experts. The project Team Leader Mr. L.Protsenko and the Deputy Project Team Leader Mr. O.Kohan developed the TORs for each expert (in average one TORs had 11 pages) based on:

- the table above "Checking the Reference Database";
- "Summary quality check Emerald Sites Database for Ukraine" provided by Mr.Roekaerts;
- Identified new 41 additional species from the Resol.6 (2011);
- Outputs formulated in the AA (2013) and other tasks, etc.

9. The Project Team Leader L.Protsenko developed methodologies and approaches applicable in Ukraine, managed experts, combined stakeholders efforts, coordinated activities with the MENR and PAs administrations, etc. The deputy Project Team Leader O.Kohan was in charge of preparation of contracts and acceptance of deliveries from experts, monitoring deliveries and contract, maintaining of the Emerald Software, procurement, financial issues, accounting, reporting, etc.

During the course of 2013, regular meetings and discussions were held with MENR staff. Five experts worked for or cooperated with NGOs.

2. Main actors / participants involved

Beneficiaries of the Project:

- Ministry of Ecology and Natural Resources of Ukraine;
- Department of Protected Areas of the MENR;
- 26 Regional Departments for Environmental Protection in oblasts;
- National Nature Parks, Biosphere and Nature Reserves, Wildlife Reserves, Regional Landscape Parks, etc;
- NGOs and local authorities;
- School teachers and students

Scientific support of the Project in Ukraine was provided by experts from:

- Institute of Botany of National Academy of Sciences of Ukraine
- Museum of Zoology of National Academy of Sciences of Ukraine
- Institute of Zoology of National Academy of Sciences of Ukraine
- NGO Ukrainian Society for Birds Protection
- Institute of Biology of the Southern Seas of National Academy of Sciences of Ukraine
- Institute of Geography of National Academy of Sciences of Ukraine
- NGO National Ecological Centre of Ukraine
- WWF

Over 100 persons (including local experts) were involved in verification of the Emerald sites database.

3. Results achieved

Objectives	Outputs
Participate in a kick-off meeting for coordination of work between seven countries participating in the Joint Programme and a technical meeting in Ukraine for launching the project in the country in 2013;	The kick-off meeting and the National Workshop were held in Kiev on April, 24-26, 2013
Participate in the Steering Committee meeting of the Joint Programme;	The Project Team Leader L.Protsenko participated in the Steering Committee meeting organized by the Council of Europe (Strasbourg, 18 October, 2013), made the presentation of project progress and visibility actions and took part in discussions
January 2014 :	
Deliveries required	**Names of files/archives downloaded to the Central Data Repository (uploaded to the CDR http://cdr.eionet.europa.eu/ on January 31, 2014)**
Sites database for additional Emerald sites with all data as defined in the Standard Data Form, including their digital boundaries;	8 new Emerald sites were proposed and all data were prepared and included into CNTRYUA, New digital boundaries were prepared and their maps were added to previous 151 sites.
Contribution to the consultations on the guidelines on Emerald Network sites' management, reporting and monitoring mechanisms;	**Two experts prepared the draft Guidelines on Management Planning of Emerald Sites in Ukraine (in Ukrainian).** The information about available publications on management planning in Ukraine were let known to the management planning expert Mrs L.DIMITROVA.
The Final Emerald sites database completed and delivered to the Council of Europe through the EIONET CDR, including corrections of data and :	
▪ Finalisation of the distribution per biogeographical region and populations in each country of all species and habitats of Resolutions Nos. 4 and 6 of the Bern Convention and Annex I of the Habitats Directive;	Reference201312-UA (available on EIONET CDR)
▪ Validation of distribution GIS maps of species and habitats already delivered in 2009-2011 and creation of additional maps for a new selection of	Habitats-201312 (available on EIONET CDR) Species-201312 (available on EIONET CDR) The additional distribution GIS maps were developed for :

species and habitats;	Habitats -2, Invertabrates -2, Fish -1, Birds -6 (total 11 maps) (available on EIONET CDR)
▪ Finalisation of sites database for all the sites with all data filled in	CNTRYUA_201312 (available on EIONET CDR)
▪ Finalisation of digital boundaries for all sites in GIS	Site-boundaries-UA-201312 (available on EIONET CDR)
	Database and maps for 8 new Emerald Sites were developed

As a final result of the Activity in 2013-02014 in Ukraine, the Emerald database of species, habitats and other relevant information were prepared for 159 Emerald Sites (8 new sites were proposed).

Totally, the Ukrainian Emerald Team has prepared database and digital boundaries for the 159 sites:

- 18 Nature Reserve
- 6 Biosphere Reserve
- 43 National Nature Parks
- 31 Wildlife Reserves of National and local importance
- 18 Regional Landscape Parks
- 6 Ramsar Wetlands (without existing governmental conservation status for full site)
- 13 wetlands (without existing governmental conservation status for full site)
- 24 areas with high biodiversity, species and habitats from the Res. 4 and 6 of Bern Convention.

These 159 sites cover the area of 4,469,530 ha that is 7.4% of the total area of Ukraine. For comparison, the area of the proposed Ukrainian Emerald Network exceeds the existing Ukraine network of protected areas (6.0%). In 2011 the total area of Emerald Sites covered 7.17% of total area of Ukraine.

4. Variations from the original planning

There were some variations from the original planning.

- Project kick-off meeting was held in Kiev in April 24-26, 2013 and a technical meeting in Ukraine was held at the same time. The meeting venue was free of charge in a headquarters of the Ministry of Ecology and Natural Resources of Ukraine;
- The visibility expert was hired within the amount allocated in the estimated budget for experts. The expert was not envisaged by the initial estimated budget.

5. Visibility

The following visibility actions have been undertaken in 2014:

1. Project Team Leader L.Protsenko made a presentation “Setting-up of Emerald Network in Ukraine” at a seminar "The development of local action plans for environmental protection - current issues of national environmental policy implementation at regional and local levels" (December 3-4, 2013) organized by the MENR for staff of Departments of Environment in Oblast State Administrations in a frame of the project “Complementary Support to the Ministry of Ecology and Natural Resources of Ukraine for the Sector Budget Support Implementation” financed by the EU;
2. The information on Emerald Network in Ukraine was presented by the Project Team Leader L.Protsenko at the meeting of “Coordination Committee on Forming of the National Ecological Network” in November 2013.
3. Introduction of the project "Emerald Network in Ukraine" to school teachers at the Sumy Regional Pedagogical Conference.
4. Presentation at the Regional (oblast level) workshop for school biology supervisors "Principles and methods of forming ecological thinking within school students based on the Emerald Network".

5. Field expeditions of research students groups to identify sites that could be potential areas of Emerald Network. Search and identification of plants and animals from Resolution 6.
6. Informing and involving to the Emerald project of students of secondary schools, local colleges, participants of the Small Academy of Sciences of Ukraine[1]) (SASU) (in particular, from sections "Ecology", "Biology" and "Geography").
7. Prepare students' projects in a frame of the Emerald Network for participation in nationwide environmental and biological competitions and school contests. Assistance for preparation and representation of the special Emerald Network projects by students at the Ukrainian Environmental Contents for school students.
8. Curriculum for additional courses for school students was prepared with a chapter about the Emerald Network
9. Information on the status, problems and prospects of the Emerald Network and the status of the project were published in:
    - Local newspapers;
    - Regional newspaper "Pedagogical Tribune"
    - Ukrainian newspaper "Biology, Ecology. School World", Kyiv,
    - Journal of Ministry of Education and Science "Biology and Chemistry at School"
    - Web-site of the "Association of Biology Teachers of Ukraine"
    - Local radio

6. Problems encountered while implementing the project

There were no problems during the implementation.

[1] SASU is an educational system that organizes and coordinates the research activities of school and college students, creates conditions for their intellectual, spiritual, creative and professional self-development, promotes expanding the scientific potential of Ukraine. SASU is subordinated by the Government of Ukraine and National Academy of Science of Ukraine.

Appendix 1:

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National Workshop
"Implementation of the activities foreseen during 2013 in Ukraine as part of the Joint Programme between the European Union and the Council of Europe for the Preparation of the Emerald Network of Nature Protection Sites, Phase II"
25 April 2013
Kyiv

Attendance register

	Name	Position	Signature
1.	I.Ivanenko, Ph.D	Deputy Head of State Agency for Protected Areas (SAPA) of the MEP	
2.	M.Roekaerts	Council of Europe, expert Manager	
3.	G.Parchuk, Ph.D	Head of Unit of the SAPA (team leader of the pilot project)	
4.	O.Dydkin, Ph.D	Director of the Ukrainian Society for Bird Conservation	
5.	O.Yaremchenko, Ph.D	Expert, Ukrainian Society for Bird Conservation	
6.	T.Solomaha, Ph.D	Senior Researcher of Institute of the Botany (plants)	
7.	O.Chervonenko, Ph.D.	Deputy Director of the National Science-Nature Museum, (invertebrates)	
8.	O.Boltachov, Ph.D	Deputy director of the Institute of Southern Seas Biology, Sevastopol	
9.	V. Onyshchenko, Ph.D	Deputy Head of the Laboratory on PAs of Institute of Botany	
10.	V.Kostiushin, Ph.D.	Head of Monitoring Department of Institute of Zoology	
11.	I. Sirenko	Expert, NGO National Ecological Center of Ukraine, GIS specialist	
12.	Ya.Movchan, proff.	Head of the laboratory of biosafety of National Aviation University of Ukraine	
13.	L.Protsenko, Ph.D.	Project Team Leader, Director of Interecocentre	
14.	O.Kohan,	Deputy Project Team Leader	
15.	V. Lytovka	Expert-biology	
16.	S.Katysh	Expert-ecologist	
17.	E.Ivanenko	expert	
18.	Yu.Nesterov	expert	