



THE REGIONAL ENVIRONMENTAL CENTER
for Central and Eastern Europe

**INTEGRATION OF BIODIVERSITY PROTECTION
ASPECTS IN THE PROCESS OF STRATEGIC
ENVIRONMENTAL ASSESSMENT**

***GUIDELINES FOR ENVIRONMENTAL AUTHORITIES AND SEA
EXPERTS***

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December 2006

CONTENTS

ACKNOWLEDGEMENTS	2
LIST OF ABBREVIATIONS AND ACRONYMS	3
1 INTRODUCTION	4
2 ANALYSIS OF INTERNATIONAL AND NATIONAL LAW ON SEA AND BIODIVERSITY	5
2.1 REQUIREMENTS OF THE INTERNATIONAL AND EU LAW	5
2.1.1 <i>Regulations on SEA</i>	5
2.1.2 <i>Regulations on biodiversity</i>	7
2.2 REQUIREMENTS OF THE NATIONAL LAW	9
2.2.1 <i>Application and procedural requirements for SEA</i>	9
2.2.2 <i>Protection of the biological diversity</i>	11
3 CROSSCUTTING ISSUES BETWEEN THE REQUIREMENTS FOR PROTECTION OF BIODIVERSITY AND SEA	14
3.1 CROSSCUTTING ISSUES BETWEEN THE PROTECTION OF BIODIVERSITY AND SEA IN THE MAIN SECTORS 14	
3.2 COORDINATION MODELS BETWEEN THE PARTICIPANTS IN THE SEA FOR INTEGRATING BIODIVERSITY CONSIDERATIONS	16
3.2.1 <i>SEA conditions at the phase of assessment of the need of SEA and the objectives of PP</i>	16
3.2.2 <i>SEA conditions at the phase of SEA scoping</i>	18
3.2.3 <i>SEA conditions at the phase of preparing the Environmental report</i>	18
3.2.4 <i>SEA conditions at the phase of decision on SEA</i>	20
4 INTEGRATION OF BIODIVERSITY CONSIDERATIONS IN THE SEA PROCEDURES	20
4.1 ELEMENTS OF BIODIVERSITY IN BULGARIA – LEVEL OF PRIORITY	20
4.2 INFORMATION ON THE ASSESSMENT OF IMPACTS ON BIODIVERSITY AT THE SCREENING STAGE	23
4.3 INFORMATION IN THE ENVIRONMENTAL REPORT CONCERNING THE ASSESSMENT OF IMPACTS ON BIODIVERSITY	24
4.4 MEASURES FOR PREVENTION, MITIGATION AND POSSIBLE REMEDIES OF THE ADVERSE IMPACTS OF THE IMPLEMENTATION OF PLANS/PROGRAMS	25
4.5 MEASURES FOR MONITORING THE IMPACTS OF PLANS/PROGRAMMES	28
5 SOME EXAMPLES FROM THE INTERNATIONAL EXPERIENCE IN SEA AND BIODIVERSITY 31	
CONCLUSIONS	33
LIST OF REFERENCES AND SELECTED SOURCES CONCERNING BIODIVERSITY AND SEA	35

ACKNOWLEDGEMENTS

The preparation of the guidelines was supported within the “Capacity – building for good practice in biodiversity and impact assessment” small grant programme carried out by International Association for Impact Assessment (IAIA) within the project “Strengthening the capacity of Bulgarian environmental authorities and Strategic Environmental Assessment (SEA) experts in the application of SEA in the context of integrating biodiversity aspects in SEA procedures”. This project was implemented by the Regional Environmental Center for Central and Eastern Europe and Bulgarian experts.

The present guidelines incorporate the information and the comments gathered through consultations with representatives of the Ministry of Environment and Waters (hereinafter MoEW) as well as the results of discussions that took place during a stakeholder workshop organized on October 25, 2006 in Sofia.

The authors would like to thank for the valuable contribution and support of the Director of the Preventive Activities Directorate of the Ministry of Environment and Waters, Mrs. Vania Grigorova and of the members of her unit – Ms. Jaquelina Metodieva and Ms. Valentina Nikolova. Their help was of great importance for the launching and completion of the project.

We would like to acknowledge also the following persons for their comments and suggestions: Prof. Vesselina Troeva, Julia Stojkova, Mira Mileva, Ors Szilard Marczin and Ausra Jurkeviciute, the REC and Stamen Cholakov, Noblex Ltd.

LIST OF ABBREVIATIONS AND ACRONYMS

AA	appropriate assessment as required by the Habitat Directive
Birds Directive	EC Directive 79/409/EEC on the Conservation of the wild birds
CS	conservation significance
EEA	Executive Environmental Agency
EIA	Environmental Impact Assessment
EU	European Union
EPA	Environmental Protection Act of Bulgaria
Habitat Directive	EC Directive 92/43/EEC on the Conservation of the natural habitats and of the wild fauna and flora
IBA	Important Bird Areas
IPA	Important Plant Areas
LBD	Law on Biological Diversity of Bulgaria
MoEW	Ministry of Environment and Waters
NEN	National Ecological Network
NGO	Non-governmental organization
PP	Plans or programmes
PAA	Protected Territories Act
RIEW	the Regional Inspectorate of Environment and Waters of Bulgaria
SAC	special areas of conservation
SEA	Strategic Environmental Assessment as required by the Protocol on the Strategic Environmental Assessment to the Convention on the Environmental Impact Assessment in Trans-boundary Context (1991) or the SEA Directive
SEA Directive	EC Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment
SEA Ordinance	the Ordinance on the conditions and procedures for carrying out of the environmental assessment of Bulgaria
UN	United Nations
UNECE	United Nations Economic Commission for Europe

1 INTRODUCTION

Since July 2004 the normative regulation of environmental protection and the practice of its implementation face new opportunities. With the entry into force¹ of the Bulgarian Environmental Protection Act (hereinafter the EPA) and the Ordinance on conditions and procedures for carrying out environmental assessments new approaches are introduced which entail the careful assessment of the environmental effects of strategic planning documents. The abovementioned legal acts transposed the Directive 2001/42/EC of the European Parliament and of the Council of the European Union on the assessment of the effects of certain plans and programmes on the environment (hereinafter the SEA Directive) and provided for the means for achieving its objectives.

The main aim of the present guidelines is to propose directions for developing capacities of planning authorities and those administrative authorities that are responsible for carrying out the Strategic Environmental Assessment (hereinafter SEA)², as well as to support SEA experts in the application of SEA procedures with a special focus on biodiversity protection.

The authors argue that these guidelines should not only consider international regulations and experience on SEA and biodiversity, but rather reflect the specifics of biodiversity in Bulgaria, so that one can guarantee its protection as a significant factor in SEA procedures and the planning process.

The document includes an analysis of the general international and national legal framework of SEA and biodiversity, which is followed by practical models for stakeholder cooperation. In the following parts criteria and indicators for the protection of biodiversity are introduced.

¹ from the 1st of July 2004

² SEA shall be the term for the purposes of those guidelines and for defining the assessment required by the SEA Directive and by the Bulgarian legislation transposing the Directive.

2 ANALYSIS OF INTERNATIONAL AND NATIONAL LAW ON SEA AND BIODIVERSITY

2.1 REQUIREMENTS OF THE INTERNATIONAL AND EU LAW

2.1.1 Regulations on SEA

1³. The SEA Directive obliges EU Member States to adopt the relevant legislative and administration acts, necessary for compliance with its requirements until 21st July 2004. The main objective, as defined in Art.1 of the Directive is: "...to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment."

2. The basics of the philosophy of SEA are introduced in the Preamble (Recital 1) to the Directive, which although not legally binding, presents the concept of the legal act. Article 174 of the Treaty⁴ provides that Community policy on the environment is to contribute to, inter alia, the preservation, protection and improvement of the quality of the environment, the protection of human health and the prudent and rational utilisation of natural resources, and that it is to be based on the precautionary principle. Article 6 of the Treaty provides that environmental protection requirements are to be integrated into the definition of Community policies and activities, in particular with a view to promoting sustainable development."

3. The SEA Directive emphasizes the importance of the integration of biodiversity aspects in the process of the planning. According to the Recital 3 of the Preamble: "The Convention on Biological Diversity requires Parties to integrate as far as possible and as appropriate the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans and programmes."

4. The SEA Directive introduces procedural requirements to the assessment, which shall be integrated either in the existing assessment procedures or in procedures, set separately to comply with the Directive.

5. The SEA Directive (Art. 2, p."b") defines the environmental assessment as a process, which comprises of the followings:

³ For clarity and facilitation of the use of the guidelines for quoting and references to its texts, the paragraphs are numbered.

⁴ Treaty Establishing European Community (Rome, 1957)

- preparation of an environmental report
- carrying out consultations
- taking results of the environmental report and consultations into account in the decision making
- provision of information on the decision in accordance with Art.4 to 9.

The preparation of the environmental report includes the identification, description and assessment of the possible significant effects on the environment from the implementation of the plan and programme, the reasonable alternatives, taking into account the objectives and the geographical scope of the plan and programme (Art. 5 of the SEA Directive).

6. The legal qualification and interpretation, as well as the practical implementation of the regulations of the SEA Directive require answering the following questions:

- What is a “plan and programme“ in the terminology of the Directive?
- Which are those plans and programmes, which are potentially the subject of SEA?
- How they can be distinguished from all other documents, produced by/for the administration in the course of the planning process?

In the guidelines of the European Commission from 2003 on the implementation of the SEA Directive it is argued that “in identifying whether a document is a plan or programme for the purposes of the Directive, it is necessary to decide whether it has the main characteristics⁵ of such a plan or programme. The name alone ('plan', 'programme', 'strategy', 'guidelines', etc.) will not be a sufficiently reliable guide: documents having all the characteristics of a plan or programme as defined in the Directive may be found under a variety of names.”

7. SEA is conducted for plans or programmes (PP) defined in two categories – a) on the basis of the sectoral classification of PP, which envisages the future development of projects and b) based on the significance of the environmental effects of projects to be carried as a result of PP. Plans and programmes prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use and finally those that set the framework for future development consent of projects listed in Annexes I and II to Directive 85/337/EEC fall into the first category. For the second category every Member State shall determine other plans and programmes, which

⁵ “plans and programmes” shall mean plans and programmes, including those co-financed by the European Community, as well as any modifications to them:

- which are subject to preparation and/or adoption by an authority at national, regional or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and
- which are required by legislative, regulatory or administrative provisions (Art.2, “a”, the SEA Directive)

shall be submitted to SEA. The SEA Directive prescribes three approaches to the determination of the second category of PP – case-by-case, by specifying of types of PP (e.g. by a list) or by combining the two approaches. The same methodology applies to the use of small areas at local level and to the evaluation of the significance of the minor modifications to plans or programmes from the first category. The Bulgarian approach will be further analysed in chapter 2.2.2.

8. The environmental report shall identify, describe and assess the significant effects on the environment likely to originate from the implementation of the plan and programme, and shall contain the information according to Art.5, par.2 and 3 of the SEA Directive and Annex 1⁶.

9. The consultations with certain authorities and the public on the draft PP and the draft environmental report is an obligatory part of the procedure. An early and effective opportunity should be given to the relevant authorities and the public within appropriate time frames, to express their opinion on the draft PP, as well as on the accompanying draft environmental report before the adoption of the PP, or its submission to a legislative procedure (Art.6, par.2 and 3 of the SEA Directive). Detailed arrangements concerning the information and consultations with the authorities and the public are to be determined by the Member States (Art.6, par.5).

10. The main result of the SEA procedure should be the thorough consideration of the environmental report and consultations during the preparation of the PP as well as before its adoption or submission to legislative procedure (Art.8).

11. After the adoption of the PP, the authorities and the public shall be informed on the integration of the environmental considerations into PP and concerning the way the SEA and the results from the consultations have been taken into account and on the reasons for the choice of the PP in the light of the other alternatives, which were considered in the procedure (Art.9 of the SEA Directive). The measures for the monitoring of the significant environmental effects of the implementation of the PP shall be part of the information on the PP.

2.1.2 Regulations on biodiversity

12. The protection of biodiversity is fundamentally regulated as a part of the international law in the Convention on Biological Diversity from 1992, signed at the UN Conference in Rio de Janeiro. According to the Art. 2 of the Convention “Biological diversity means the variability among living organisms from all sources, including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity

⁶ See the translation of the SEA Directive at the web site of the MoEW - www.moew.government.bg.

within species, between species and of ecosystems”. The main international acts regulating the relations between the countries in the area of the protection of the environment, such as the Cartagena Protocol on Biosafety to the Convention on Biological Diversity, the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat and the Bonn Convention on the Conservation of Migratory Species of Wild Animals, as well as other international agreements are presented in Box 2 to p.2.2.2.

13. The membership of Bulgaria in the European Union from 1st of January 2007 determines the importance and applicability of the two basic EU directives in the field of biodiversity protection: the Directive 92/43/EEC on the Conservation of the natural habitats and of the wild fauna and flora (hereinafter the Habitat Directive), and the Directive 79/409/EEC on the Conservation of the wild birds (hereinafter the Birds Directive). The establishment of the NATURA 2000 network is provided for in the Art.3 of the Habitat Directive as a coherent European ecological network of special areas of conservation (hereinafter SAC). This network is composed of sites hosting the natural habitat types and habitats of the species and of the special protection areas classified by the Member States pursuant to the Birds Directive. A substantial condition for the implementation of the Directive is the designation of these sites on the basis of the criteria set out in Annex III (Stage 1) and relevant scientific information, where each Member States proposes a list of sites indicating which natural habitat types in the Annex I and which species in the Annex II that are native to its territory and which are located in the sites (Art.4, par.1 of the Habitat Directive).

14. Art. 6, par.1 of the Habitat Directive requires the establishment of necessary conservation measures for the special areas of conservation, including appropriate management plans specifically designed for the sites or integrated into other development plans. In parallel to this mechanism for the protection from degradation of the conservation status of the natural habitats and the habitats of species, the Habitat Directive outlines another preventive tool - the appropriate assessment (AA). This assessment is applied to plans or projects not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, for its implications for the site in view of the site's conservation objectives (Art.6, par.3). That way one concrete and focused assessment of the PP is introduced to comply with the conservation objectives for the designated sites and required to be submitted to a mandatory SEA pursuant to Art. 3, par.2, "b" of the SEA Directive. The AA precedes the SEA and can provide a great amount of baseline information for the SEA study report (see also p.2.2.2) and for the consultations with the public

and administrative authorities. It is an assessment, specialized at measuring the effects on and provides for protection of biodiversity and its application can feed in practical and methodological inputs and guidelines in the general SEA.

2.2 REQUIREMENTS OF THE NATIONAL LAW

2.2.1 Application and procedural requirements for SEA

15. The main provisions regulating the SEA in the national legislation in Bulgaria are provided for in the EPA Chapter IV, part one - general provisions and part two – environmental assessment of plans and programmes and in the special Ordinance promulgated on the basis of Art. 90 of the EPA on the Conditions and Procedure of Environmental Assessment of Plans and Programmes (hereinafter the SEA Ordinance).

16. The environmental assessment⁷, as defined in the EPA, shall be conducted for plans or programmes, which are in a process of preparation and/or approval by central or local executive authorities, local government authorities and the National Assembly (Art.81, par.1, p.1 EPA). It is defined in the par.2 of Art.81 of EPA that the SEA's objective is to integrate the environmental considerations into the process of development with a view of introducing the principle of sustainable development according to Art 3 and 9 of EPA.

17. A study (Troeva, et al) on the conditions for introducing the SEA into the legal system concluded that the procedural nature of SEA in Bulgaria, tends to be nearer to an “assessment” mean/tool than to a “decision driving” process. The reasons can be found in the strong traditions in Environmental Impact Assessment (EIA) in Bulgaria and in still a developing system of planning, especially regional planning. In this respect the integration of the SEA with the existing procedures for preparation and adoption of plans and programmes (Art.82, par.1 EPA) might be problematic in the light of the formal requirements for access to these procedures by the SEA authorities at a stage, which allows a full SEA, especially, when the PP do not fall into the formal scope of the SEA Ordinance with its Annexes.

18. Annex 1 to the Ordinance defines a list of PP, which are subject to a mandatory SEA in the areas/sectors acc. to Art. 85, par.1 of EPA. The list in the Annex 2 contains PP, which are subject to SEA. Those PP are setting the framework for the future development consent of

⁷ Defined as *strategic environmental assessment* in the research publications and reviews and in the Protocol on the Strategic environmental assessment to the Convention on the environmental impact assessment in transboundary context (1991) or as *assessment of the effects* of certain plans and programmes according to the SEA Directive.

investment proposals in accordance with Annex 1 to the Art.92, p.1 and Annex 2 to Art. 93, par.1, p.1 of EPA.

19. The scope of the SEA in terms of the second category PP, according to the principle of the significance of the impacts and likely effects on the environment, as mentioned earlier in p.7, is defined mainly through a formal list of PP. Nevertheless, it can be argued that the Bulgarian model is a combination of the definitive specification, enumeration of types of PP (Annex 2 to the SEA Ordinance) and the possibility for checking of other PP, case-by-case (Art.2, par.2, p.4 of the SEA Ordinance), in the procedure of the SEA need evaluation (screening). Even so, it is still arbitrary and not proven by the practice of application of SEA, to which extend a proponent of PP, which formally does not fall in Annex 2, would require from the SEA authorities to conduct such an assessment and how such a practice can be established, without relying only on the sanctioning mechanism of Art.31 of the SEA Ordinance, for compulsory administrative intervention. This is important, having in mind, that the identification of significant effects of a PP on the environment by its implementation, is a subject of the very SEA and the proponent would not assign in the most of the cases such an assessment nor assess by himself the scope of the effects.

20. The successive phases of the formal SEA, according to the SEA Ordinance are the following:

- Screening phase (determination of the need for SEA), in Art.8, 9,12 and 14-15;
- Determination of the scoping of the assessment, in Art.14, par.4
- Preparation of the environmental report, in Art.17
- Consultations with the specialized authorities and the public, in Art. 13 and Art.19–21
- Taking into account of the results of the consultations, in Art.22
- Taking the decision on SEA – issuing of a statement, in Art.23-26
- Announcement of the decision, in Art.27 and
- Monitoring of the implementation of the PP, in Art.28-31.

21. The competent authorities on SEA (Art.4 of the SEA Ordinance) are the Minister of Environment and Waters and the Director of the Regional Inspectorate of Environment and Waters (RIEW). The Minister of Environment and Waters is competent for the SEA statement also if a PP is implemented in the territory of several municipalities which are in the supervision of different RIEW (Art.11, par.2, p.4 EPA) (See table 1). The Minister and the Director of RIEW are supported in the execution of their powers by consultative bodies – a special board to the

Supreme Expert Ecological Council to the Minister and Ecological Expert Council to the Director of RIEW. In the councils mandatory members are representatives of the key ministries and their regional units – of health, of agriculture and forestry and of regional development and public works.

Table 1: Competent authorities for the adoption of plans and programmes for SEA

Planning authorities, which prepare or adopt PP	Authority on SEA
Central executive authorities (e.g. ministries, agencies) and the National assembly	The Minister of environment and waters
Territorial executive authorities (e.g. regional governors and mayors) and the municipal councils	The director of the RIEW in some cases the Minister of environment and waters according to their competence pursuant art.10(2) of the EPA

2.2.2 Protection of the biological diversity

22. Bulgaria has ratified the Convention on Biological Diversity on 29.02.1996, which entered into force on 16.07.1996. Biodiversity has been defined as a component of the environment according to Art. 4 EPA and to it is given a special consideration in the regulation framework. In the field of biodiversity protection Bulgaria has ratified the main global and pan European international conventions as shown in Box 1.

Box 1: International agreement, ratified by Republic of Bulgaria

<ul style="list-style-type: none"> • Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) - ratified on 25.01.1991, in force for Bulgaria since 01.05.1991 (State Gazette No. 23/1995); • Convention on Biological Diversity - ratified on 29.02.1996, in force for the Republic of Bulgaria since 16.07.1996 (State Gazette No 19/1999); • Convention on Wetlands of International Importance Especially as Waterfowl Habitat (The Ramsar Convention) - ratified, in force for the Republic of Bulgaria since 24.01.1976 (State Gazette No 56/1992); • The Republic of Bulgaria is a party to and successfully implements the Convention on International Trade in Endangered Species of Wild Fauna and Flora (The Washington Convention, CITES) - ratified in 1990, in force for the Republic of Bulgaria since 16.04.1991 (State Gazette No 6/1992); • Convention for the Protection of the World Cultural and Natural Heritage - signed, ratified and in force for the Republic of Bulgaria since 1976 • Convention on the Conservation of Migratory Species of Wild Animals (The Bonn Convention) - ratified on 03.08.1999, in force for the Republic of Bulgaria since 01.11.1999 (State Gazette No 16/2000) • Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area - ratified and promulgated in the State Gazette No 87/1999; • Agreement on the Conservation of African-Eurasian Migratory Water birds - ratified by law - State Gazette No 87/1999; promulgated in the State Gazette No 16/2000, in force since 01.02.2000; • Agreement on the Conservation of Bats in Europe - ratified by law - State Gazette No 69/1999; promulgated in the State Gazette No 16/2000, in force since 09.12.2000. • European convention on the landscape – ratified by law, State Gazette No. 94/2004, in force for the Republic of Bulgaria since 01.03.2005 <p>Source: web site of the Ministry of Environment and Water</p>

23. The main legislative acts in the field of biodiversity which transpose the requirements of the international conventions and of the Habitat Directive and the Birds Directive are: The EPA (Chapter 3, Section 5), the Law on Biological Diversity (LBD), Protected Areas Act (PAA). Additionally in the Law on Hunting and Game Protection, Law on fishing and aquacultures, Medicinal Plants Act, the Waters law, the Law on forests, the Law on protection of the agricultural lands and in the Law on the protection of the new plant varieties and animal breeds are stipulated norms, which provide for measures for protection and sustainable use of the relevant biological resources.

24. The main competent authorities in biodiversity protection, similar to the SEA, are the MoEW and the RIEW, but additionally there are powers delegated to other administrative authorities with a special competence in the management of the protected areas (the directorates of the National parks), and to the minister of the agriculture and forestry, as well as to the other stakeholders, physical and legal persons, and municipalities, owners of forests, lands and water bodies in the territories, included in the National Ecological Network (NEN). Beside these authorities and persons, the ministry of territorial development and public works and the municipalities, in their capacity of administrative authorities, have certain obligations for protection of the biological diversity according to the LBD. Consultative body to the minister of environment and waters is the National Council on biodiversity, which members are representatives of the stakeholder ministries, agencies, scientific and academic institutions, and non-governmental nature protection associations.

25. The establishment in Bulgaria of NATURA 2000 with identified and characterized types of habitats, representative for Bulgaria and Europe, to be designated as units of the European Ecological network, is one the main commitments and priorities of the Environmental Policy, including acc. to the draft of the Operational Programme Environment 2007-2013. According to LBD (Art.3) the State has a general obligation to develop a National Ecological Network which shall comprehend SAC, which may incorporate protected areas and protected areas outside special areas of conservation. The network shall incorporate on a priority basis CORINE Biotopes sites, Ramsar Convention sites, floristic important areas and important bird areas. Management plans shall be elaborated for the special areas of conservation. The establishment of NEN mainly aims at protection of the priority habitats and species. In case of adversely damaged habitats and species, measures for their recovery should be taken. Wetlands, which are important habitats for different species of flora and fauna, including migratory birds are a typical example in this respect.

26. According to PTA, (Art.5) the protected areas are divided into the following categories: strict nature reserve, national park, nature monument, managed nature reserve, nature park, protected site. There are provisions in the law regulating the management of the protected areas, which shall be considered in carrying out of the screening procedure and SEA study preparation. Management plans of protected areas shall be commissioned by the MoEW. Management plans of protected areas may furthermore be commissioned by the owners, municipalities, non-governmental organizations or associations and others after obtaining a written consent from the MoEW (Art.58, par.2 PTA). For the special areas of conservation there can be commissioned management plans according to the LBD.

Table 2: Plans and programmes as defined by different laws

Law	Plan/Programme/measures/authority
Law on Hunting & Game Protection	The acclimatization and re-acclimatization of the game in the country is carried out according to a long term programme coordinated with the Ministry of Environment and Waters and approved by the Head of the National Forestry Board (Art.41, par.1) Game reintroduction shall be designed to refresh the blood, start up a game population, maintain biodiversity and support hunting stocks according to an annual programme approved by the Head of the National Forest Department as provided in this Act's application regulations (Art.41, par.2) Depending on the biological development of the game, the damages caused by it and the epizootic circumstances, the Minister of the Agriculture and Forestry on the basis of a proposal of the Head of the National Forestry Board or of the General Director of the National Veterinary medical Office after consultations with the Minister of the Environment and Waters with an order can amend the hunting terms, regulate the number of the hunting resources, as well as to restrict or prohibit the hunting of some species of game (Art.54, par.2)
Law on Fishery and Aquacultures	A national programme on fishery and aquacultures shall be adopted by the council of Ministers proposed by the Ministry of Agriculture and Forestry, Ministry of Transport and Communication and Ministry of Environment and Waters. One of the components of the programme is the protection of biodiversity in the aquatic ecosystems and sustainable development of the fish resources (Art.4, par.1)
Act on Medicinal Plants	For the purposes of conservation and sustainable exploitation of medicinal plants the following documents shall be developed: – National Strategy on Medicinal Plants (by the Minister of Environment and Water, Art. 50) – Medicinal Plants Section within the Management Plans in compliance to Protected Areas Act (upon the request of the Minister of Environment and Water); – Medicinal Plants Section within the municipal program on environmental protection (by the Mayor of the relevant municipality); – Medicinal Plants Section within projects, plans and programs for forest management in compliance with Forestry Act (by the Head of the National Forestry Directorate with the Ministry of Agriculture and Forestry, Art..50)
Waters Act	The zones for protection of the waters are: Protected territories and areas, designated for protection of habitats and biological species, in which the maintenance and improvement of the water status, is an important factor for their protection. (Art.119 a, par.1, p.5 and Art.119 b).
Forestry Act	The organizational forest projects for the forests and lands of the forest stock contain studies and decisions regarding the territorial organization, inventorying the forest stock, a package of forestry activities for ensuring optimal conditions for use and reproduction of forests and game, preserving biodiversity and the abiotic components of the natural balance, the recreational use of the forests, a substantiation of the economic, environmental and social impact of the project implementation. (par 1, p.1 of the Supplementary provisions)

27. Special plans and programmes, which shall be adopted according to the laws, regulating the protection and use of the respective biological resources and biological diversity, covering the natural biological resources, as well as those cultivated by the humans, and which shall be taken into account in the SEA procedures are presented in table 2 above.

28. Amendments to the LBD, entering into force after the accession of Bulgaria to the EU, introduce special assessment requirements (Art.31 of LBD), which mainly focus on ensuring that the planning process is coherent with conservation objectives of the SAC in question, and that a statement on the significance of the effects of the project is prepared by the competent authority. This will become a precondition to be fulfilled before proceeding further with the SEA assessment and the final draft of the project plan. In case the project plan is endorsed, the competent authority shall give clear instructions to the proponent on conditions, requirements and measures concerning the protection of the SAC throughout the implementation of project. The information and analyses prepared under this special assessment shall be used in the environmental report.

3 CROSSCUTTING ISSUES BETWEEN THE REQUIREMENTS FOR PROTECTION OF BIODIVERSITY AND SEA

3.1 CROSSCUTTING ISSUES BETWEEN THE PROTECTION OF BIODIVERSITY AND SEA IN THE MAIN SECTORS

29. The approaches to integration of biodiversity can be chosen depending on the sector, the character of the PP's and their territorial scope. The policies and strategies for developing the forestry and agriculture sectors on national level can affect biodiversity both positively and negatively, since the two sectors cover about 85% of the state territory. The impact of PP in these sectors would be significant also on the level of planning region or district as well. For example certain types of forest use(e.g. rotation-based use) in Europe (in some of the countries of Central and Western Europe continued 3 centuries) has lead to the decrease of the natural status of forests in many countries. It also has caused the extinction of some important species, which are characteristic to the primary forests, such as wild animals, plants and mushrooms (stenobionts). The intensive game husbandry has caused the domestication of a huge part of the population of wild ungulates, and has changed their behaviour, ecology, and affected their gene pool. The implementation of the principles of the Common Agriculture Policy have led to the deterioration of the natural diversity of landscapes in Europe, formed through centuries of harmonious co-existence of man and nature.

30. PP in water management and fishery sectors have a direct impact on specific biodiversity of river and water basins respectively on the seaside areas. It is anticipated that the implementation of the National Water Management Plan and related investment projects provided in it could also affect negatively the forest ecosystems in large water-catchments. Significant impacts on valuable biodiversity territories of high conservation value could be expected as a result of the implementation even of municipal PP in tourism, spatial planning and land use sectors. For example, the projects – Super Borovets, Super Ribaritsa, Super Divchovoto, which cover the territories of several municipalities threaten directly and indirectly the nature of some of the most remarkable protected areas in the country – Rila and Central Balkan National Parks. Good examples for nature protection are the spatial plans of the seaside municipalities prepared in the 90s of XX century. However later those plans were significantly violated and the unique natural characteristics of the Black sea coast were deteriorated.

31. The infrastructure in transport, energy, industry, waste management and communications sectors has destructive impact on the natural habitats and the habitats of species both in the point and linear character. But the infrastructure exploitation affects biodiversity continuously and negatively on a larger scale and territory than the construction of infrastructure itself. Typical examples for this impact are: fragmentation of wild animals populations and their habitats, high mortality rate of the animals on the transport corridors (transport); dryness of forests and micro-climate changes as a result of water construction; loss of natural status of rivers and negative impact on the water biota; high mortality rate of birds and bats due to the wind energy parks constructions; usage of the wood fuel (energy) production of wood material for heating (energy); destruction of animal and plant species as result of water, soil and air pollution (industry); bird mortality and harmful emissions for the biota (communications) and damages of landscape scenery of the natural and agricultural landscapes (all 5 sectors).

32. Apparently SEA's on PP of national, regional and in some cases on district and municipal level in forestry, agriculture, spatial planning, land use and tourism sectors will be required information about all or the most biodiversity groups mentioned above. PP that form strategies and policies in these sectors could be of crucial importance for the long-term protection of Bulgarian biodiversity. Therefore SEA is important instrument for achievement of this goal. SEA in water management and fishery sectors should focus on the impacts on the marine biota, as well as on biota of the standing fresh waters, on rivers and their banks. The assessment should also focus on the indirect influence over the habitats and species and their habitats in forests and agricultural lands. SEA in transport and energy sectors could prevent the implementation of

hundreds of investment projects which are decided now case-by-case and usually affect negatively the biodiversity elements with conservation significance (CS). The AA carried out pursuant Article 31 of LBD shall have preventive character (see also par.14 to p.2.1.2.) and refers only to PP that could affect negatively SAC and their elements with CS.

3.2 COORDINATION MODELS BETWEEN THE PARTICIPANTS IN THE SEA FOR INTEGRATING BIODIVERSITY CONSIDERATIONS

33. The SEA Ordinance in several provisions regulates the requirements for consultations of the SEA authorities with other administrative bodies, other stakeholders and the general public. The followings will shortly present the relations between the basic conditions laid down in the SEA ordinance and the means for integrating biodiversity protection aspects in the SEA process.

3.2.1 SEA conditions at the phase of assessment of the need of SEA and the objectives of PP

34. When the proponent of a PP submits a written request for assessment of the need for SEA (Art.8, par.1 SEA Ordinance) to the competent authority according to Art.4 of SEA Ordinance, the Minister of Environment and Water or the relevant Regional Inspectorate for Environment and Water, the authority shall evaluate the quality and sufficiency of the submitted information. The competent body shall review the request and its annexes thereto within 14 days, and shall specify the procedure applicable according to Art.3, par.1. In case incomplete documents are received, omissions or inaccuracies are encountered in the request or the documentation submitted, the proponent shall be required to correct these in writing and/or to submit additional information within a specified term. (Art.12, par.2, SEA Ordinance).

35. The objectives of the PP shall be compared for compliance against the objectives set in national strategies, programmes and management plans for biodiversity protection. In this respect both general and the special strategies should be considered, as presented in the Table 2 and Box 2. SEA authorities are in many cases also proponents and implementation bodies of biodiversity plans and projects. The environmental report shall take into consideration the relations between biodiversity objectives and the plan or project in question, as well as the possible negative effects emerging through its implementation. SEA authorities shall instruct the SEA team and the proponent on the selection of the most biodiversity friendly, possibly not deteriorating it, alternative. The hierarchy of and interactions between all PP that can be affected by the proposed PP should be considered concerning objectives, territorial scope and concrete projects which shall be adopted on the basis of the proposed PP.

36. The determining of the scope of information shall also take into account the different levels of biodiversity – ecosystems, habitats, communities, species, individuals, population and genes – and it should assess impacts of the PP on that basis. For example, in some cases the impact on the water quality can affect adversely the ecosystem in a river or lake, while in another a land use plan that proposes changes in land use can endanger habitats of species setting barriers for their distribution, reproduction, feeding, etc.

Box 2: General national strategies, programmes and action plans to be considered in the SEA process

I. General national strategies, programmes and action plans:

- The National Strategy on Biodiversity Protection (1995),
- National Strategy for Environment 2005-2014 and the Action Plan for 2005-2009,
- National Plan for the Protection of Biological Diversity 2005-2010,
- Action plans for the protection of globally endangered birds,
- The National Strategy on Ecotourism and Action Plan,
- Management plans for protected areas.
- Operative Programme for Environment, 2007-2013 (draft) - which sets as one of its three main specific objectives and priorities the protection and recovery of the biological diversity

Integration of biodiversity considerations:

37. Competent SEA authorities acc. to Art.4 , are supported by specialized administration units directly responsible for EIA and SEA. They review the information submitted by the proponent considering its territorial scope and affected elements of the NEN. The latter consists of SAC and protected areas outside the SAC (Art.3, par. 2 LBD), which incorporate CORINE sites, Ramsar sites, Important Plant Areas (IPA) and Important Bird Areas (IBA) as priority elements. In addition, information on characteristics of the affected territory and anticipated effects on the environment (on the habitats and species within and outside the protected areas) should be presented, including maps, other graphical material of the affected territory and other supplements.

38. The first round of consultations can be performed within the relevant biodiversity specialized ministry administration. Within a two weeks period a decision is to be taken on the completeness of the information provided concerning also biodiversity and whether any further information and clarification shall be required. The administrative units specialized in biodiversity protection within the administration of SEA authority – e.g. National Directorate for Nature Protection of the MoEW and the Protected Areas Monitoring Directorate of the Executive Environmental Agency (EEA) – should be also involved in this process. The National Directorate for Nature Protection has its functions to manage and control the National Ecological Network by establishing the network of protected territories according to the Protected

Territories Act and to establish and maintain a protected areas, designated for protection and recovery of the natural habitats with European and national conservation value, as well as of habitats of rare or endangered plant and animal species. The Protected Areas Monitoring Directorate of the EEA – with its special department dealing with the monitoring of land, biodiversity and protected areas – will carry out a first check upon the quality of the information provided, on the basis of the data that can be found in special registers, maps and management plans of protected areas and SAC.

3.2.2 SEA conditions at the phase of SEA scoping

39. As a next step in the SEA process of assessment and scoping the information submitted to SEA authorities, the documentation received by the proponent is consulted with the specialized administration of the Ministry of Health, the municipalities expected to be affected by the plan or project, and other relevant bodies (Art.13, par.1 SEA Ordinance). This round of consultations shall last up to 30 days. The request of the proponent shall contain the main objectives of the PP (Art.8, par.1, p.1, “e” SEA Ordinance).

Integration of biodiversity considerations:

40. Environmental authorities can prepare a list of institutions and reference materials on biodiversity protection distribution and scope. Institutions that possess relevant expertise, knowledge and might have additional information concerning the effects of the plan/programme on SAC and other elements of the National Ecological Network shall be consulted. As this phase of consultation is still of strictly administrative character, NGOs and academic entities shall be not involved as obligatory participants in the procedure.

41. On the other hand certain research centres and project implementation NGO can be requested to submit relevant reports, analysis and other baseline information, or the information, on their Internet sites and in their publications, to be checked. Depending on the complexity and territorial range of the PP, the SEA authorities may organize a topic meeting with institutions affected by the PP, where new information and suggestions raised during that process can be discussed.

3.2.3 SEA conditions at the phase of preparing the Environmental report

42. The environmental report shall be drafted with reference to the baseline information, sources and results of consultations, including a review of expressed opinions, proposals on alternatives and the expert evaluation on each part of the study. (Art.17 SEA Ordinance).

Integration of biodiversity considerations:

43. The members of the team carrying out the SEA responsible for biodiversity aspects (in some Bulgarian SEA studies these are presented in five subcomponents, namely: flora, fauna, ecosystems, landscape and protected areas) shall work in close contact with the proponent of the PP as well as with the experts from respective administrations responsible for biodiversity protection, and in case of a local scale PP with relevant local authorities. Joint meetings with experts and public officials can lead to clarifications concerning the reviewed baseline information and for development of viable alternatives.

44. The information used can be clustered in categories and levels of details that should be considered when evaluating the significance of the effects. Parts of this evaluation should be clearly quantitative and involve measurements and data from before the implementation of the PP, as well as prognosis on the status of biodiversity after implementation of the alternatives of PP suggested. NGOs active in the field of biodiversity and nature conservation can provide inputs at this stage by giving their research results and empirical data. Academic researchers in the area shall be also consulted in this respect. Before the report is completed main positions and the selected leading alternatives shall be presented in a workshop inviting representative of the planning team, the SEA team, external experts, NGO's and local people.

SEA conditions at the phase of carrying out consultations

45. The general public, interested authorities and third parties that might be affected by the PP during the different phases of its development shall be consulted according to a scheme developed by the proponent (Art. 19 SEA Ordinance).

Integration of biodiversity considerations:

46. The structure of consultations should reflect the findings and the specific concerns identified in previous stages – e.g. if there is a probability that a special areas of conservation or a population of species of European Community importance will be affected, while as many as possible experts in the field should be consulted as well as NGO's that can comment and propose alternatives for avoiding, reducing, or compensating for the adverse effects. When a public hearing proves not to be the appropriate initial form for consultation, scientific institutions and academics (Bulgarian Academy of Sciences, Biological Departments of the universities, etc.) should be consulted first, before submitting the issue to open public discussion. Consultations with experts and academia however shall not replace broader discussions, but they should rather be treated as an integral part of the process.

47. The decision of the SEA authorities is prepared by relevant consultancy bodies: special board of the Supreme Expert Ecological Council (SEEC) to the Minister of Environment and Waters, and the Ecological Expert Council (EEC) to the Regional Inspectorate for Environment and Waters. The members of these bodies are partially representatives of administrations of the main ministries – i.e. ministries responsible for agriculture and forestry, of regional development and public works and of health, but external members are also included. These bodies shall represent the variety of experts and institutions and the non-governmental sector, and shall include at least two experts on biodiversity.

3.2.4 SEA conditions at the phase of decision on SEA

48. With the SEA statement SEA authorities shall clearly prescribe measures for avoidance, mitigation and possible full elimination of the possible negative effects on the environment from the implementation of the PP as well as measures for monitoring and control by the implementation of the PP, including periodicity of submission of a report on the monitoring and control (Art.26, par.2 SEA Ordinance).

Integration of biodiversity considerations:

49. Clear indicators and mechanisms shall be identified for measuring and monitoring the effects of the project on biodiversity. For certain scale and scope of the PP, the implementing authority might be required to present in the environmental report e.g. a description on the current status of biodiversity and the respective protected area or SAC, as well as on the conditions of species and habitats after the implementation of the project. Public access to relevant data and information should be provided, in a way that this can be compared with the feed back of NGOs, local people and experts. Additional information might be collected concerning the effects of different types of plans and projects on effected SAC and protected areas. Comparison between the expected and actual effects can be later assessed and used in other SEA studies.

4 INTEGRATION OF BIODIVERSITY CONSIDERATIONS IN THE SEA PROCEDURES

4.1 ELEMENTS OF BIODIVERSITY IN BULGARIA – LEVEL OF PRIORITY

50. Protection and sustainable use of biodiversity is a common principle which can be found in many international conventions (the Convention on the Biological Diversity) and national legislation (the LBD and the PAA). The abovementioned principle is clearly defined in the Birds

Directive and in its interpretation in the LBD. Protection measures are envisaged for all bird species including those, for which the regulation of their numbers can be allowed for most part of the year.

51. In the LBD the protection and the conservation are targeted towards elements of biodiversity with conservation significance: species and their habitats, natural habitats and territories from the NEN. The CS of those biodiversity elements is defined mainly at the level of the EU Directives. The NEN consists of all protected areas as well as of the future special areas of conservation. The areas and aqua areas from CORINE Biotops Network, the Ramsar Convention wetlands, IBA and IPA, which have not been designated as protected areas or SAC have to be taken into consideration in the elaboration of plans and programmes affecting habitats and species from the annexes to the LBD. Although not taken into account by the current legislation, the areas, indicated by the scientific literature, as an important ones for mammals, cave bats, reptiles, amphibians and butterflies have to be taken into consideration. These areas are well defined because of the species richness within the group and as habitats of the populations of a high conservation significance of species, mostly from the annexes to the LBD. Special attention has to be paid to the SAC which are part of international and European networks: World Cultural and Nature Heritage, PanPark, Biosphere Reserve, European Diploma, Biogenetics Reserve and UN List of protected areas, Pan parks, etc.

52. The habitats of CS and those of high priority for nature conservation are listed in Annex I to the LBD. The sub-types of those habitats also have to be taken into consideration. Some of them are unique for the country, for Europe or in global context: beech forest with Constantinople hazel (*Coryllus colurna*), beech forest with cherry laurel (*Laurocerasus officinalis*), *Fagus orientalis* forest with rhododendron (*Rhododendron ponticum*), Rila oak forest (*Quercus protoruboroides*), etc. The phyto-cenotic biodiversity has to be considered especially when it is part of certain habitat types from Annex I to the LBD. The implementation of the Bern Convention (Resolution 4/1996 of the Permanent Committee) requires protection of threatened habitats in Europe.

53. The species within LBD are listed in Annexes 2, 3, 4 and 6. The LBD is focused on the transposition of the EU legislation and does not specifically regulate the globally threatened species and habitats. Most of those species are included in the annexes of the LBD, but they are treated as species of European or/and national conservation value. These species should have priority in defining their CS: *Vormela peregusna*; *Lutra lutra*; *Mesocricetus newtoni*; *Cricetulus migratorius*; *Muscardinus avellanarius*; *Dryomys nitedula*; *Myomimus roachi*; *Sicista subtilis*

Phocoena phocoena; Tursiops truncatus; Emys orbicularis; Elaphe situla; Ophisaurus apodus; Bombina bombina; Hyla arborea. However there are gaps in the LBD for such species, whose populations in the country have global or European importance (such as: *Nanospalax leucodon, Sciurus vulgaris, Glis glis, Micromys minutus, Microtus guentheri* and *Chionomys nivalis*, both protected through the Nature Protection Act, 1967, etc; It is worth to mention that populations of some 60 Bulgarian vertebrate species and sub-species are of global significance (more than 1% of the global population). These species and populations certainly are of CS, which should be taken into account.

54. There is no doubt that the Bulgarian endemic species have global conservation significance and Bulgaria is exclusively responsible for their protection. Endemic species are justification for designation of protected areas (according to PAA) and in the LBD in Art. 2, point 1, the endemic plants and animals are listed as elements of the future SAC. Only part of the endemic plants and about 15 vertebrate species and subspecies are included in the annexes to the LBD. However the main justification for their inclusion in the Annexes, is their threatened status and not their endemic status. It should be noted that it is still unclear how many of the habitats of the hundreds of those endemic plants and animals (and few more hundreds of Balkan endemics with major habitats in Bulgaria) are included in the protected areas' network, and how many of them will be included as SAC. More than 100 species and subspecies are only the troglobiont invertebrates, which were declared protected species, by the Nature Protection Act, 1967, while the threats for their vulnerable habitats have increased in the last decade.

55. The most effective protection means of the endemic species in Bulgaria are the inclusion of the species-formation centres and especially areas with concentration of endemics in the protected areas and SAC. (This was done to a significant extent in the CORINE Biotopes network).

56. Bulgaria is responsible for inclusion of 3 types of forest habitats (at biom rank), the tributaries of the Danube river, as well the rivers of South Bulgaria. (Global Eco-regions, WWF⁸) The priority forest habitats in Bulgaria are: deciduous and coniferous mountain forests, Pontic-Kolhic forests of Strandza and the Mediterranean sclerophyl forests and shrubs (the Struma valley).

⁸ The Global Ecoregions is a science-based global ranking of the Earth's most biologically outstanding terrestrial, freshwater and marine habitats. It provides a critical blueprint for biodiversity conservation at a global scale. Developed by WWF scientists in collaboration with regional experts around the world, the Global Ecoregions is the first comparative analysis of biodiversity to cover every major habitat type, spanning 5 continents and all the world's oceans. The aim of the Global Ecoregions analysis is to ensure that the full range of ecosystems is represented within regional conservation and development strategies, so that conservation efforts around the world contribute to a global biodiversity strategy.

57. The species from the Red Books and other Lists usually have long term validity – more than 10 years. In the new editions, currently under preparation by Bulgarian Academy of Sciences, the list of endangered species has doubled due to the newly included groups (invertebrate fauna, mosses and fungi). However, the Annexes of the LBD include not more than one third of all red data book species. The rest of species not listed into the LBD, also need to be included in the scope of elements characterizing the territories affected by the PP, and will be doubtlessly taken into consideration within the SEA process.

4.2 INFORMATION ON THE ASSESSMENT OF IMPACTS ON BIODIVERSITY AT THE SCREENING STAGE

58. The minimum information on biodiversity, which the proponent has to provide during the elaboration of PP, is pointed in LBD: areas affected by the PP, which are part of the NEN, also IBA's, IPAs, sites from CORINE Biotopes Network, habitats of species included in Annexes 2, 3 and 4 of LBD within and out of the NEN. The information must have qualitative and quantitative parameters (as long as they are available) of species' populations, habitats and territories. This information could serve for the assessment of the CS of the affected elements of the BD, the level of impact of PP and of the other PP and investment proposals connected.

59. With the development of the data base and the capacity of the planning authorities, the requirements for provision of relevant information during the PP elaboration can include also requirements for other CS biodiversity elements:- important areas of mammals, cave bats, reptiles and amphibians, butterflies; globally and nationally threatened species that are not included in the Annexes to LBD: species populations of global, European and national importance; species formation centers and the areas with high levels of endemism of plants and invertebrates; habitats of the Annex to Resolution 4/1996 of the Standing Committee of the Bern Convention, the sub-types with CS of these habitats and the sub-types of the habitats from Annex 1 to LBD. The information on the above mentioned elements has to be included in the ToR for SEA. However this or similar information can be requested from the proponent also after consultations with experts and the stakeholders.

60. The scope of the SEA depends on the territory of the impact of the PP, the connected with it, other related PP, and investment proposals, the presence of CS elements of biodiversity, the detailed description of the PP, which allows definition of the influence over the biodiversity elements. Forestry and agricultural strategies and programmes on national level, on planning regions or on geographical regions level, have to be assessed based on all groups of SC elements

because they can/may have a long term impact on biodiversity. The regeneration cutting and the reconstructions of forests for the last 50 years have caused losses of valuable biodiversity of two thirds of the natural high-stem forests. Some of the losses can be recovered after 50 to 100 years, but the restoration of the natural structure of the forests will take longer time. The forest stenobiont species will not be able to restore viable populations and will disappear. The losses of biodiversity as a result of the intensive agriculture in the last 50 years are even of greater scale and shall be assessed with a great caution in the preparation of new PP.

4.3 INFORMATION IN THE ENVIRONMENTAL REPORT CONCERNING THE ASSESSMENT OF IMPACTS ON BIODIVERSITY

61. The initial assessment is made on the CS of the elements of biodiversity, so that the degree of impact can be evaluated, while all other conditions equal. The SC of a specific element in a given area can be assessed by a set of criteria (See Box 3 below). The point evaluation scheme is preferable. Such an evaluation scheme was used for the CS and priority for conservation habitats and species for the management plans for Strandzha Nature Park; the vertebrate fauna of Central Balkan National Park and its high-mountain zone; as well as Vitosha Nature Park and Rila Monastery Nature park, and the nesting ornitho-fauna of Rila National Park.

Box 3: Criteria for conservation significance

- The scale of threaten status (global, European, national significance)
- The relative size of the population and the size of the habitat (the same scale) and the quality (vitality of the population and degree of natural status of the habitat)
- The priority of the territory for conservation of a given habitats (sub-habitat) or the population of a species/subspecies on national level and bio-geographic regions
- The endemic and/or relict character of the habitat/sub-habitat/population

62. The next assessment is an assessment of the threats to the elements of biodiversity, which come from the PP and the connected with them other PP's and project proposals (A) as well as existing threats from other factors (B). It is necessary to accumulate those threats (A+B), whereas the points scale should be comparable to the CS of the elements. The scale of threat has to be connected to the part (percentage) that the given population presents out of the total national population or the total bio-geographic region population, as well as the European and global population if that is the case. The threat to the habitats and sub-habitats is assessed the same way. One percent of the population of a species/subspecies and of the surface of a habitat already should be assessed as minimal substantial part. This corresponds to the threshold of the conservation important population, which is again 1% and is used in the above-mentioned

management plans. When assessing the risks and threats, the level of the vulnerability of the biological diversity shall be assessed:

- Of the population should also be taken into account (small number, late maturity and high level of mortality of the young animals, isolation of the population and others);
- Of the habitats (small size, vulnerability to calamities, fires, etc);
- Of the given area (small size, lack of protected areas or buffer zones to the protected areas, proximity to big settlements, etc.).

63. The relationships between the elements and tendencies in the development of the communities and ecosystems also have to be subject to assessment. A classical example is the relationship “sheep-breeding – pastures - *Spermophilus citellus* – predators”. With the decrease of sheep breeding the succession of bush and trees species begins in the pastures (which are a threatened habitat), leading to the extinction of *Spermophilus citellus*, a globally threatened species and a basic feed for the *Aquila heliaca*, *Falco cherrug* and *Vormela peregusna*, which are also globally threatened animals.

4.4 MEASURES FOR PREVENTION, MITIGATION AND POSSIBLE REMEDIES OF THE ADVERSE IMPACTS OF THE IMPLEMENTATION OF PLANS/PROGRAMS

64. At the foundations of the SEA should lay the principle that the strategic planning in all sectors should include the priorities for long-term conservation of biodiversity. This principle is covered in Art. 118 of the LBD. The Ministry of Agriculture and Forestry and the Ministry of Regional Development and Public Works are the authorities specifically empowered together with the local authorities to follow this principle in their work. In fact they are the main central administrative authorities who could assist most efficiently the MoEW in following its biodiversity protection policy. Exactly they have management functions, connected to a large part of the natural and semi-natural habitats, including the marine habitats. Their jurisdiction covers the sectors which have key impact on resolving biodiversity protection in the long term and sustainable use of the natural resources: the forestry and agriculture sectors, the spatial planning and land use.

65. From the point of view of biodiversity protection 10% of the Bulgarian forests have very high CI as representative habitats and as habitats to rich flora and fauna, including the typical forest stenobionts. (Only 2% however are the forests, which have reached the so called climax age – over 140 years). The recommended measures for protection of this global heritage can only be fruitful after acceptance of strategic PPs on national level. On the lower level of the SEA of

the PPs, certain measures have to be recommended such as: moratorium over the use of virgin forests in closed basins; moratorium over the use of old forests in protected areas, SACs, IBAs, IPAs, and CORINE network areas; moratorium over the use of some forests for reconstruction; moratorium over the cutting in watershed areas; increasing the age of the cutting turnus; recovery of the forests in longer periods and without clear cutting; use of selective cutting, in i.e. beech forests; conservation of certain old forest areas as a link between large forest massifs; introduction of certificates for products from environmentally friendly managed forests.

66. In the agricultural sector has been starting the formation of big massifs for use of agricultural land. In this sector the initiated policy for consolidation of the agricultural holdings can be based on PPs with strategic directions, including the integration of biodiversity in the sector. This can also be done on a lower level: region of planning, district, municipality. More detailed PPs in the smaller territorial units, especially in low mountainous lands and hill-lands can serve for reaching real balance in biodiversity protection and development of sustainable agriculture. In IBA sites the conditions for this are favourable. The regimes for protection and use of the habitats in them are prescribed and could be discussed in the process of development of the SEA. More complicated are the problems with mammals from the steppe fauna, from which about 10 species are included in the Global Red List of threatened animals. A major problem is protection of their habitats – semi-natural meadows and pastures, which currently turn naturally into forests or are ploughed. The financial mechanisms in the EU can stimulate the conservation of the grasslands through compensations and incentives. In such situations the SEA can recommend the development of organic agriculture for certain areas. The protection of local sorts of plants and breeds of animals (such as gray cow, Iskar cow, Rhodopes cow, and above 20 local sheep breeds) can bring additional incomes through rural tourism. Important habitats for the steppe flora and fauna are also dry valleys, karst areas, stone hills, steppe-like areas. They also play the role of ecological corridors and stepping stones for animals and plants between areas with significant presence of conservation important elements.

67. The territorial planning is an important sector, in which traditionally biodiversity, geological heritage and landscape are well presented, assessed and have gained protection. In the interaction with other sectors special attention should be given to tourism, which proved to be aggressive in taking over areas, distinguished by significant landscape beauty, with rich biodiversity and often – with protection status. SEA in spatial planning as well as in PP for tourist and sports construction should have a strong position in the cases when a protected area is affected, especially when it is part of an international network (World Heritage, Pan Parks, etc.)

and has high level of protection. LBD provides that MoEW within the procedure of the appropriate assessment could deny the endorsement of PPs which have conflicting aims and status with the protected sites (SAC and protected areas). In cases where the activities of a certain PP are permissible in a certain area, the SEA can put some limits or offer alternatives, which prevent the adverse impact on conservation important elements of biodiversity, including the landscape, or diminish them to an acceptable degree. The problems with biodiversity most often are connected with: construction of new areas rather than enlargement or densification of already existing urbanized areas; constructing hotel facilities in mountainous areas and obliteration of the natural landscape; not complying with the carrying capacity of the ecosystems; over-saturation with visitors; damaging biodiversity and lowering the quality of recreation. Due to the lack of buffer zones around the national parks (which exist throughout Europe), the over-saturation of the hotel facilities and visitors can damage irreversibly biodiversity in protected areas. At the same time the population in the buffer zone will not benefit from the development of sustainable production and tourism as is per its management plan. In such cases the SEA can be based on the CORINE Biotops network, in which the national parks are included with a 1.5 – 2.5 times bigger territory than their own surface with conservation important elements and at the same time serving the function of buffer zones for the parks. The lack of SEA resulted in significant deterioration the Black Sea cost zone. The north part of the National Park Pirin was also a subject of urbanization. Many of the decisions that lead to the irreversible damages of valuable natural areas in these two areas can serve as examples of non-application of the law protection options.

68. In the other major sectors (see also par. 31), the activities have mostly point and linear characteristics. The strategic PP's with a national scope, whose elaboration is accompanied by SEA, could minimize the conflicts with biodiversity protection, including in the following plans and investment projects. In the transport sector principle decisions can be taken: the highways and other national road network should not directly or indirectly affect protected areas and CS elements in SAC; the highways should not pass through the big mountain forest massifs, inhabited by large predators; the road infrastructure should not harm (fragment) the populations of endangered species and small-size and unique habitats; the roads should be built with the necessary passes for wild animals. The transport corridor can be planned in favour of the threatened biodiversity. The Sofia-Athens highway, if planned to pass through the low foothills of the Pirin Mountain above the Kresna Gorge, could contribute to lowering manifold the mortality of wild animals. And the opposite – if it passes through the gorge, it will destroy it forever and will deprive us of the wilderness of only Bulgarian Mediterranean zone.

69. Strategic PPs for alternative energy sources could have limited the construction of small hydro power plants (HPP) in the natural rivers in the countries, in the protected areas and SAC the construction of wind power parks could have been regulated on the basis not to hinder bird migration and not to destroy picturesque landscapes.

4.5 MEASURES FOR MONITORING THE IMPACTS OF PLANS/PROGRAMMES

70. The EPA and the SEA Ordinance foresees monitoring and control of the measures, which are to be planned in PP to prevent or diminish the negative impact on biodiversity during the implementation phase of the PP. The monitoring should be carried out by experts from the different biodiversity groups, which are planned to be a subject of observation. The control can include checking specific technical works (e.g. construction and maintenance of the road facilities, enabling the wild animals to cross the roads). In this case the checking is focused only on the technical issues, which differs from a monitoring of the efficiency of the facilities for the wild animals and requests observations for a certain period. The control could also include checking the validity of the documents, issued for conducting different activities, having a direct impact on biodiversity (e.g. in the forestry – checking documents issued for conducting specific cutting in CS forest habitats or forest habitats of the species included in the Annex 2 to the LBD). In this case the control could be a continuous long term observation/checking. The existing practices show that visits on the spot, carried out by the proponent of PP and the biodiversity competent authorities, are an important part of conducting an efficient control.

71. The monitoring of the impact of the PP linked with agricultural sector, should be focused on the NEN areas, as well areas which are important for protection/conservation of the steppe or steppe- like biota: species, groups of species, habitats and areas. The monitoring carried in the NEN areas provides better opportunity to determine the real impact of the intensification of the agriculture on the CS biodiversity elements. The results from the monitoring could be a good basis for formulation of additional measures aimed to ensure effective protection of biodiversity in agricultural lands.

72. The spatial plans, can foresee carrying out of control and monitoring of the CS biodiversity elements in addition to the measures envisaged to control the implementation of the plan itself. For example, if a permanent control and monitoring on the sand dunes (presenting 0,001% from the country's territory) was exerted, a lot of damages on the sand dunes areas, like the complex located in the Sunny beach resort, could have been avoided.

73. The high mountain treeless zone is often a subject of a variety PP and of investment projects, initiated mainly from tourism sector. The control on the limitation measures from the approved construction works plans is of crucial importance, because this zone is rich in endemic and rare species and communities. This zone covers only 2 % from the country's surface and its biota is quite vulnerable.

74. The measures for preventing the damages on biodiversity, as well the control and monitoring their implementation, are very important tools when approved within the PP on national level. In case of development of the National program for alternative/renewable sources of energy, specific measures should be foreseen for diminishing the harmful consequences from construction of small HPPs on the river biota: e.g irreversible loss of the natural characteristics of the river and river banks; changes in the river's ecosystem and biota; hinder the migration of the fish stock and the genetic exchanges between populations. The following measures can be suggested for the conservation of the fish: limitation of the number of HPS on a certain length of the water courses; limitation of the size of HPP equipment and installations; building of fish passages; control on the plans and constructions of the effective fish passages; monitoring of the efficiency of the passages for migration of the fish stock and the state of fish populations. Similar measures could ensure the protection of the fish on all levels of development of investment projects for construction of HPP.

75. The selection of good indicators is essential for the success of the foreseen monitoring. The indicators could be linked with state of the species, their populations, communities and habitats, interrelations and process within the ecosystem, including the succession and evolution processes. The habitats and species, included in Annexes 1 and 2 to the LBD, are subject of the obligatory monitoring on national and bio-geographical level. The EU requests results of the monitoring to be reported regularly (each seventh year). The main indicators for habitats are linked with their size and quality – e.g. scale of the naturalness, richness of the flora, fauna and mycota, the level of fragmentation of populations, the actual and potential threats, etc. The natural and anthropogenic successions in the communities very often are causes for improvement or degradation of the quality of the habitats, as well the species habitats. The main indicators for species could be linked with their numbers, dynamics and viability of the populations, the scale of isolation, the state of “genetic pollution”, if any, the current and potential threats, the status of species habitats, etc.

76. The selection of the indicators for species, habitats and/or natural interrelations/processes depends of the scope of the PP, the presence of the CS and priority for conservation biodiversity

elements, as well of the character and the level of the impact. Although most of CS species can be used as indicators, very often they are not among the best indicators. In case of environmental pollution, the indicators could be selected among the micro-organisms, mosses, fungi, and invertebrates, which are sensitive to the pollution and react quickly to the level of pollution. The ornithological surveys are important for identification of tendencies occurred in the large areas and landscapes. Usually the results of such survey are quite reliable. The level of emissions, density of the road network, the number of vehicles, number of visitors, the quantity of the fertilizers used in agriculture, nevertheless they are not biodiversity elements, can be also used as indicators for monitoring of the environmental assessment. Some results from an impact factors could be used also as indicators: e.g. micro and meso-climatic changes, temperature of the water, etc.

77. When developing national, regional or geographical strategic PP, the environmental assessment could requests measures for monitoring of the priority for conservation biodiversity elements typical for the relevant area. In the forest sector such indicators are: old forests, rare habitats, habitats of species, with a large home ranges (large predators, wild cat, pine marten, birds of prey, *Dryocopus martius*, *Picus canus*, *Strix uralensis*); species closely linked with the old forests (in addition to the most of the above mentioned species, *Picoides tridactylus*, *Dendrocopos leucotos lilfordi*, *Aegolius funereus*, *Glaucidium passerinum*, *Columba oenas*, *Tetrao urogallus*, *Ficedula parva*, *F. semitoquata*, *Elaphe longissima*, also a variety of invertebrates, plants and fungi). In case of geographical PP, other species in addition to the above mentioned ones, can be used – e.g. in case of the Strandza forests a variety of species typical for the Black sea part of Asia Minor, Caucasus and even of the Hirkan region could be selected. The similar approach will be used for the areas with a Mediterranean sclerophyl forests and shrubs-*Juniperus excelsa* woods, *J. oxycedrus* shrubs, *Phyllirea latifolia* shrubs, *Quercus coccifera* woods, the birds of the Mediterranean biom, few reptiles, as well some invertebrates and plants. In the agriculture sector the priority for monitoring should be given to: steppe-like areas, xerotherm shrubs, chalkier terrenes. Reliable indicator species are also: dozen mammals from the steppe faunistic complex: *Spermophilus citellus*, *Miomymus roachi*, *Mesocricetus newtoni*, *Cricetulus migratorius*, *Cricetus cricetus*, *Vormela peregusna*, *Mustela eversmanni*, etc., as well 12 birds of prey (*Aquila heliaca*, *A. pomarina*, *Circaetus gallicus*, *Gyps fulvus*, *Neophron percnopterus*, *Milvus migrans*, *Falco vespertinus*, *Accipiter brevipes*, etc.), *Crex crex*, some species from the singing birds, terrestrial turtles, some snakes, as well certain invertebrates, steppe, grassland and calciphyl plant species, etc.

5 SOME EXAMPLES FROM THE INTERNATIONAL EXPERIENCE IN SEA AND BIODIVERSITY

78. According to a publication of the International Organization of Impact Assessment (IAIA, 2005) while determining the territorial priority of the scope and impact of the PP, there are some “key” territories, which are with “important biodiversity” and the SEA should screen whether there are such types of territories in the assessment of the effects and vulnerability of the separate elements of biodiversity by the implementation of PP. These territories might:

- Support endemic, rare, declining habitats/species/genotypes
- Support genotypes and species whose presence is a prerequisite for the persistence of other species
- Act as a buffer, linking habitat or ecological corridor, or play an important part in maintaining environmental quality
- Have important seasonal uses or are critical for migration
- Support habitats, species populations, ecosystems that are vulnerable, threatened throughout their range and slow to recover
- Support particularly large or continuous areas of previously undisturbed habitat
- Act as refuge for biodiversity during climate change, enabling persistence and continuation of evolutionary processes
- Support biodiversity for which mitigation is difficult or its effectiveness unproved including habitats that take a long time to develop characteristic biodiversity
- Although currently poor in biodiversity, with appropriate intervention they may have a potential to develop high biodiversity.

79. A publication of (2004) of the Countryside Council for Wales, English Nature, Environment Agency, Royal Society for the Protection of Birds: The Strategic Environmental Assessment and Biodiversity: Guidance for practitioners offers a checklist, which scopes the SEA concerning biodiversity considerations (See box 4).

Box 4: Scoping checklist for biodiversity

Are there any designated sites or protected species within the plan-area? (see Table 3) Consider biodiversity components at the following levels: (1) bioregion/landscape/ecosystem; (2) habitat/community/species; (3) population/individual/genes. Which levels are represented in the plan in question? Are there possible impacts at these levels? Which level(s) can be studied most effectively?

Formal designations tend to apply predominantly at the habitat and species level, but communities and individuals may also be protected. The size and composition of populations can be an important consideration in driving designation and is also often built into BAP national, regional and local targets.

Address the following questions to determine the scope of the SEA in relation to biodiversity composition, structure and function:

Composition

- What are the main components of biodiversity in the area affected by the plan (see above)?
- What is the distribution pattern and richness/abundance of biodiversity?
- How does biodiversity composition in the study area compare with that outside the study area (are there biodiversity components that are particularly unique, e.g. locally adapted populations? Are there components that are poorly conserved or represented elsewhere, or are they relatively ubiquitous?)
- Are there any flagship (popular, charismatic) biodiversity components in the area?
- Which biodiversity components are particularly vulnerable/sensitive to proposed plan- activities?
- What are trends in composition (e.g. is biodiversity organization and composition stable or subject to rapid change, e.g. long term declines in species or habitat diversity?)

Structure

- Structural relationships include: connectivity, patchiness, fragmentation, vertical habitat differentiation, distribution of key physical features, availability of niches, seasonal availability of habitat, water availability.
- How are biodiversity components organised in time and space (location, distribution, variation)?
- What are the requirements or 'drivers' for high, or characteristic biodiversity to be maintained (e.g. environmental gradients)?

Function

- Consider how current levels and types of biodiversity are being maintained. Take an ecosystem perspective to identify important functional relationships, e.g. dependence of wetlands on hydrological processes; threat to semi-natural grassland communities from nutrient enrichment; relationship between aquatic invertebrates and water quality.
- What role do biodiversity components play in maintaining processes and dynamics, or supporting other biodiversity components (e.g. role of vegetative cover in retarding surface water run-off, habitat in providing a refuge for certain species)?
- What processes maintain boundaries and structure (competition, herbivory, predation, dispersal)?
- Are any threatened components present? What is their functional role? What are their requirements?
- What are the demographic processes determining the status of species populations (e.g. do populations rely on recruitment of new individuals from elsewhere, requiring the maintenance of mobility through the landscape?)

Adopted by Strategic Environmental Assessment and Biodiversity: Guidance for Practitioners (2004)

80. In the Guidelines of Economic Commission for Europe to the UN are presented some methods for effective public participation which could be extremely useful for all the stakeholders, especially for the proponents of PP, which can gather significant information on biodiversity and receive public support through formal and informal discussions and consultations with the NGO's and the general public (See box 5). On the other hand, the norms of SEA ordinance provide for sufficient forms and means for public participation, if interpreted correctly:

- sending announcements to the central and territorial authorities of the executive power and to the municipal councils;
- preparing and distributing a leaflet or a brochure with brief information on the plan/program;
- organizing expert or public groups under the assessment scope;
- sending opinions, suggestions, statements and recommendation to the environmental report team and the proponent via regular mail or email;
- public discussions.

Box 5: Methods used for public participation

Public information ~ I; Distribution of the SEA documentation ~ D; Receipt of comments from the public ~ R

- development of web sites or web pages with information on SEA on the Internet with proposals on public participation and used for receipt of comments from the public (I, D, R);
- dissemination of EIA information and receipt of responses from public by e-mail (I, D, R);
- notification of stakeholders in the region likely to be effected (owners, the public, NGOs) and national NGOs by post with request to answer a questionnaire (I, D, R);
- organizing points of contact with the public in and around the site of the proposed activity and its possible effects (I, D, R);
- organizing public hearings and public meetings with representatives of proponent and authorities and preparing reports of such meetings (I, D, R);
- publishing and disseminating booklets and other materials with EIA information with request to answer a questionnaire (I, D, R);
- advertisements in local, regional and national newspapers (I) and (I, R) if the request for public response was done;
- informing by TV and radio (I) and (I,R) if the request for public response was done;
- posters in and around the site of the proposed activity and its possible effects (I) and (I,R) if the request for public response was done.

A combination of these methods depending on the circumstances of the particular project may be most effective. (These methods were ranked by mean of expert assessments according to the ratio efficiency/cost)

Adopted by UNECE (2006)

CONCLUSIONS

81. Within the preparation of these short guidelines, which offer, in our opinion, a broad ground for developing of theoretical and practical approaches to the integration of biodiversity considerations and opportunities in the SEA procedures in Bulgaria, emerged some conclusions. A) The legislative base of the biological diversity and of the SEA in the Bulgarian legislation, is developed sufficiently and transpose correctly and in detail the main principles and provisions of the international law, including of the EU law.

B) The main challenge before the competent authorities and before all obligatory and voluntary participants, is to implement the requirements of the law, with the available resources and administrative capacity. The SEA as a new form for supporting and providing environmental integration into the planning process, shall become a part of the strategic decisions of the state and municipal authorities, from the moment of initiation of new planning documents. This predisposes another, a more open approach of the planning, which includes environmental criteria and reporting on the planning process.

C) A low awareness and the limited access to the information by the public, academia and scientists prevent their involvement at the appropriate stage and utilization of their experiences and information on the certain components of biodiversity. The introduction of the appropriate

assessment according to the Art. 31 of the LBD in the environmental assessments can provide for the improvement of the practice of SEA with a special attention on biodiversity. It can bring a long term advantage to the experts and the authorities in the assessment of the investment proposals and town development plans. The experience and the influence of the EU institutions will play also a significant role in the improvement of the procedures and involvement of the public. The need of recovery of the economically lagging behind regions, including through offering alternative ecological activities and products, as well as the global tendencies towards “greening” policies and production, can change the strategy for development on the local level. The wealth of Bulgarian biodiversity can become an European value and a good investment in the future of the economy and in the national dignity of Bulgaria.

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European Environment Agency, www.eea.eu.int