Joint transnational strategy

WP3: Transnational joint strategy and tools for the better management and implementation of Natura 2000 sites

WP (act.) 3.3: Transnational tools and strategy for the better management and implementation of Natura 2000 sites

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**Abbreviations**

**BENA** Better Management of Natura 2000  
**CMT** Common Monitoring Tool  
**FoA** Field(s) of Activity  
**GL** Guideline  
**IPAM** Integrative Protected Area Management  
**JTS** Joint Transnational Strategy  
**JTAP** Joint Transnational Action Plan  
**PA** Protected Area  
**PP** Project Partner  
**SSE** South East Europe  
**WP** Work package
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Disclaimer:

The current report was written based on good scientific conduct with the latest methodological approaches available. All data sources have been indicated properly. However, the authors cannot guarantee flawlessness of all data and results presented in here. Therefore, no claims can be accepted that may stem from the use of the results. The copyright of the report lies with the authors, copying or using the report requires written approval by the author.

The conclusions and opinions presented in this report do not necessarily represent those of Vienna University of Technology, of the SEE programme, of official authorities of the European Union, or of the partners in the consortium.
1 Introduction and problem setting

As the most important network of protected areas in Europe and one of the largest in the world, Natura 2000 network has been established to protect Europe’s most threatened and characteristic habitats and species. Since its declaration in 1992 nowadays about 20 % of Europe’s terrestrial surface is protected according to the Habitats Directive (92/43/EWG) and the Birds Directive (79/409/EWG). Due to different political and social backgrounds in each country, the degree of implementation of the targets set by the European commission can be considered heterogeneous (EEB 2011, KIRCHMEIR et al. 2011). Especially in South-East-Europe there are large varieties in terms of legal implementation, managing structures and financing of Natura 2000. In order to improve and tighten nature protection on an international level the project BE-NATUR was set up, containing 13 partner institutions from 6 EU-member states and one partner from Non-EU.

The JOINT TRANSNATIONAL TOOLS AND STRATEGY (JTS) comprises a series of documents helping in the first instance the project partners of BE-NATUR to improve the situation of Natura 2000 in their countries. Besides a strategic schedule several tools are presented which can give considerable assistance to protected area managers:

- Joint transnational action plans
- Common monitoring tool
- IPAM-Expert system
- Training needs assessment
- Financial portfolio for protected area management

The interconnection between the specific tools and working steps are show in Figure 1.

![Planning scheme showing the hierarchical structure of the Be-Natur project](image-url)
2 Gap Analysis

As a first step the status quo, and particularly the gaps and grievances in the partner countries, needed to be identified. Therefore, a questionnaire has been developed covering the three significant dimensions (Kirchmeir et al. 2011):

- legal procedures for the application of directives
- management and organizational structures
- ecological assessment

Besides some methodological heterogeneity in the assessment an interpretation of the results, the gap analysis give a good overview on the current status of Natura 2000 and existing gaps. Still, there are manifold deficiencies and an urgent need for further analysis and interventions. Based on the findings of the questionnaire and as a response to the problems identified through the whole process a number of recommendations could have been drawn. The following represents a concise selection of the most urgent issues and problems concerning Natura 2000 in South-East-Europe:

Legal and institutional frameworks for managing Natura 2000 sites

- The designation process of sites was occasionally carried out by local authorities without having the adequate technical, ecological and economical background knowledge.
- Missing national legislative competences lead to different implementations and regulations in the provinces when federal legislative structures are given.
- There is no legally defined involvement of relevant stakeholders at national, regional and local levels.
- In some countries there is no sufficient integration of impact assessment into legislation and sometimes there is a lack of experience exchange on the implementation of Natura 2000 legislation.

Management and organizational structure

- There are still many Natura 2000 sites without a responsible person (manager) at the local level and/or the managers are not structured in a functional organization, which provides supervision, training and knowledge transfer between the managers.
- There is a lack on specialised persons on Natura 2000 management and on specific training and education in this field.
- Competent, trained people are missing to coordinate activities and knowledge exchange between different authorities that are responsible for Natura 2000 management.
- Almost no mechanisms are available to evaluate the efficiency of management on the national and regional level.
- There is a lack of national programmes and projects or they are not communicated effectively.
Ecological dimension

- Information in the standard data forms does not always match with the real situation.
- Quantitative data on species and habitats is rare.
- Missing coordination between site administrations to ensure or improve the favourable state of species and habitats.
- Only on few sites the monitoring concepts are implemented.
- Most of the projects are focusing on the protection of birds, followed by mammals (without bats). For amphibians and reptiles, invertebrates and bats only few projects are implemented.
- European jurisdiction on species and habitats (e.g. in the field of impact assessment of projects) is not available on the level of local authorities.

Socio-economic dimension

- The costs of effectively managing Natura 2000 sites have been estimated by the European Commission to amount to about EUR 5.8 bn per year.
- Benefits are roughly EUR 200 to 300 bn per year resulting from conserving the natural capital providing a broad range of vital ecosystem services to the European societies and economies.
- Financial gaps are evident in the current survey of partner regions in the Be-Natur project.
- The gap between needed expenditures for a proper management of Natura 2000 and the actual spending differ by around 80%.
- A significant number of partners were not able to estimate actual or needed expenditure for effective management, thus suggesting that the institutional and human resource capacities of authorities planning and managing Natura 2000 sites is still weak.
- The lack of substantial support for exploiting the regional economic development opportunities of Natura 2000 sites hinders many regions to benefit from conservation efforts.
3 Joint transnational strategy

Firstly, based on the numerous gaps and deficits in management of Natura 2000 sites that could have been identified and concentrated during the process of the gap analysis, several recommendations for an improvement of the current situation can be derived:

Legal and institutional frameworks for managing Natura 2000 sites

- Revise the selected Natura 2000 sites and check, if all relevant sites have been nominated.
- Coordinate the legal implementation within the federal states or provinces.
- Clarify the involvement of all relevant stakeholders at national, regional and local levels by law.
- Integrate impact assessment into legislation and exchange experience on implementation of impact assessments.

Management and organizational structure

- Provide Natura 2000 specific training for site managers and administrative bodies
- Establishing a Natura 2000 centre of excellence for every EU-member state with a transnational funding approach
- Create standards for uniform development of management plans and quality management
- Develop concepts and mechanisms to evaluate the effectiveness of the management on a regular basis as a result indicator.
- Implement a tracking tool of the management planning process (Status: not available, in preparation, implementation, evaluation, in revision) as a performance indicator on the national/international level.

Ecological dimension

- Programmes on the national level to coordinate activities in Natura 2000 sites
- Implement the monitoring concepts on all species groups
- Develop new monitoring concepts that enable an evaluation of the conservation status with limited resources. This might be done on the European level to design a cost efficient sampling design and a reduced but significant set of indicators.
- Enhance exchange on methodological approach in monitoring and management on the national and international level.

Socio-Economic dimension

- Involvement of all relevant stakeholders at national, regional and local levels is crucial for the development of the Natura 2000 network.
- Designation of Natura 2000 sites should be based on a comprehensive knowledge base on the overall distribution of habitats and species in each country.
- Subsidies for Natura 2000 adopted land management are needed.
- Economic instruments to support implementation of the Natura 2000 network, aimed at nature conservation and promotion of activities compatible with its protection.
- Environmental education to inform local stakeholders about their rights and limitations.
Additionally to the recommendations drawn from the gap analysis, a fostering of the three main pillars of “Management of protected areas” should be initiated. Missing capacity in terms of

- individual competence
- organization and network and
- financial resources

can be identified as the main deficiencies in managing Natura 2000.

Competence
As derived from the gap analysis and joint discussions, an international job profile for the management of protected areas is yet missing. Even though there is an urgent demand for highly qualified persons dealing with the sensitive and comprehensive topic of protected area management, there is no distinct job profile but only few university programmes offering a graduate and post-graduate education (like the “Msc programme Management of protected areas” mpa.e-c-o.at). It will be crucial to build up a pool of competence, highly motivated and scientifically educated personnel, formed by the skilled workers on site directly implementing measures up to the management level planning and coordinating the measures.

Organization and network
The second pillar is organization and networking and ensures a proper support structure. The goal is to make sure that every single Natura 2000 site is supported and supervised by a competent and trained person, who serves as the direct contact person for all stakeholder groups involved. The coordination and networking between individual sites and decision makers should be operated in national centers of excellence, where expert knowledge is concentrated and available. The installation of a centralized institution would significantly improve and foster the effectiveness of current management efforts. A good tool to evaluate the stage of implementation of the Natura 2000 management is the self assessment tool of the IPAM Toolbox (www.ipam.info).

Financial resources
Finally, sufficient financial resources build the fundament. Usually, there is a significant amount of money available for nature protection accessible via different subsidy and funding programs, either on national as well as on EU-level. Due to inefficiencies in organizational structures and a lack of knowledge, existing resources are often not exhausted completely. Therefore recommendations for sustainable financing of protected areas are also given.
3.1 Common target habitats and species selected by the PP

Representative habitats and species with an international distribution range and a multinational responsibility were chosen to serve as pilot features. They are used as examples to develop tools and strategies for the improvement of their conservation status such as the Joint Transnational Action Plans and the Common Monitoring Tool. In the third coordination meeting in Vienna in September 2012 some slight adoptions from the initial set of features were undertaken due to organizational and time restraints. The species and habitat groups listed below are the result of an international expert meeting.

<table>
<thead>
<tr>
<th>Habitat groups</th>
<th>Coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal and halophytic habitats &amp; dunes (1130, 2110, 2120,2130,2250)</td>
<td>Gianluca Salogni (VRE)</td>
</tr>
<tr>
<td>Freshwater habitats and forests (3130, 91E0, 92A0)</td>
<td>Radojica Gavriločić (CACAK)</td>
</tr>
<tr>
<td>Alkaline fens and Cladium fens (7210*, 7230)</td>
<td>Hanns Kirchmeir, Tobias Köstl (VIETU).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species groups</th>
<th>Coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ciconia ciconia</td>
<td>Fábián Zsófi (NIMFEA)</td>
</tr>
<tr>
<td>Phalacrocorax pygmeus</td>
<td>Massimiliano Costa (PRA)</td>
</tr>
<tr>
<td>Emys orbicularis</td>
<td>Ivan Kamburov (STRANDJA)</td>
</tr>
<tr>
<td>Liparis loeselii</td>
<td>AREC, LBDCA</td>
</tr>
</tbody>
</table>

Table 1: Species and habitats sorted by responsible BE-NATUR project partners and coordinators.

Figure 2: Habitats and species – subjects of the Joint Transnational Action Plans
4 Common Tools

To improve the situation of Natura 2000 management a set of tools have been selected:

- Joint Transnational Action Plans
- Common Monitoring Tool
- Training Needs Assessment
- IPAM - Self assessment and knowledge base
- Financial portfolio for protected area management

The first two tools (JTAP and CMT) are specifically developed to meet the needs of the BE-NATUR project. The others are generally addressed to Natura 2000 management.

The tools should give practical guideline for the site management but also to the administrations and decision makers, that are responsible for Natura 2000 management on the regional or national level.

All tools have been structured in the same way and are presented as fact sheets, containing following information:

**Name of the Tool**

**Short description** (What is it?)

**Goal** (Why to do it)

**Target group** (Who will do it?)

**Time frame** (When to do it?)

**Requisites** (What is required to do it?)

**Detailed description** (How to do it?)
4.1 Joint transnational action plans

**Short description**

Action plans, as defined in the BE-NATUR-proposal, should elaborate common strategies for the transnational management of highly endangered species and habitats. Unlike management plans, which are much more focused on a site level, Action Plans only give general management recommendations without any relation to a certain site. Instead, general strategies for long term actions should form a common basement for management plans in all EU-member states, which should follow a common line. To be able to create a sound management strategy for species or habitats it is inevitable to have knowledge about the state of the overall population and general threats and pressures.

**Goal**

Helps to follow a consistent methodology and structure all over Europe and to tackle the problem of habitat or species protection on a transnational scale.

**Target group**

Decision makers who are responsible for the assignment of the management plans

Protected area manager or any consultancy who are responsible for the preparation of a management plan

**Time frame**

Before management plans are commissioned or prepared

**Requisites**

Comprehensive information on the target species or habitat

Personal contact to nature conservation experts from different countries

**Detailed description**

As identified during the gap analysis there is an urgent need for harmonization of conservation efforts and a common standard for all European countries to work on. At the moment, there is no comprehensive recommendation written in the FFH guideline for the development of Action Plans, thus a standardized and consistent manual for Action Plans is yet missing.

Action plans, as defined in the BE-NATUR-proposal, should elaborate common strategies for the transnational management of highly endangered species and habitats. Unlike management plans, which are much more focused on a site level, Action Plans only give general management recommendations without any relation to a certain site. Instead, general strategies for long term actions should form a common basement for management plans in all EU-member states, which should follow a common line. To be able to
create a sound management strategy for a protective good, it is inevitable to have knowledge about the state of the overall population and general threats and pressures.

As a first step, a draft was jointly elaborated by all partners integrating additional expertise by involving external experts. This draft was filled with information gathered by each working group in order to display the current status of their protective good. To ensure that the action plans are as comprehensive as possible, transboundary collaboration was enforced by several workshops also involving local stakeholder and experts.

The next step is to adopt the Joint Transnational Action Plans at national level, what should be achieved in at least three partner countries. In some countries, however, action plans cannot be implemented on the national level because of the specific legislative structures (federal structure, action plans are not scheduled). Subsequently, the concept of the JTAPs is aimed to be accepted as a common standard tool for decision makers throughout Europe in order to harmonize management plans for Natura 2000 sites. Therefore, protected area managers as well as decision makers were invited to attend special training sessions, where background and content of the Joint Transnational Action Plans as well as the Monitoring Tool were presented. These training sessions, as defined in the application form, were supplemented by national experts consisting of researchers, nature conservation NGOs as well as private consulters dealing with the topic.

The structure of the Joint Transnational Action Plan is shown in Table 2. Differences between the structure of the JTAPs for Habitats and Species are only indicated, where it’s relevant. If information is only given for one of them, this is also valid for the other one in order to prevent redundancies.
Habitats

<table>
<thead>
<tr>
<th>1. Biological assessment of habitats</th>
<th>1. Biological assessment of species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological and ecological characteristics of the particular habitat should be sketched; a special emphasis should be put on the size and trends of the habitat because this criterion carries crucial information for further protective efforts.</td>
<td>Biological and ecological characteristics of the particular species should be sketched; a special emphasis should be put on breeding attitudes and life cycles of the species, because this criterion is, besides population size and trend, crucial information for further protective efforts.</td>
</tr>
</tbody>
</table>

1.1 Biogeographical distribution 1.1 Taxonomy
1.2 Bioinventory 1.2 Biogeographical distribution
1.3 Dominating vegetative associations 1.3 Habitat requirements
1.4 Biotope Types according to the CORINE land cover types 1.3.1 Habitat characterization
1.5 Habitat characterization 1.3.2 Habitat size and trend
1.6 Habitat size and trend 1.4 Productivity and life cycle
1.7 Human influence 1.5 Population size and trend
1.8 Identification of knowledge gaps 1.6 Human influence
1.9 Identification of knowledge gaps

2. Threats and pressures

Current factors affecting habitats such as recreational pressure, infrastructural development, pollution, alien species, environmental changes and others (The list which shall be followed is the one reported at this page: [http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal](http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal)). Threats and pressures are to be listed according to their priority (Critical, high, medium, low, unknown).

2.1 Habitats and species

Current factors affecting the habitat and population divided into direct and indirect ones. Direct pressures such as hunting, combat or depletion and indirect pressures such as habitat loss and degradation, recreational pressure, infrastructural development, pollution, alien species, diseases, genetic isolation and others. (The list which shall be followed is the one reported at this page: [http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal](http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal)). Threats and pressures are to be listed according to their priority (Critical, high, medium, low, unknown).

3. Legislative Background and Policies

Status of protection referring to Red Data List and to federal or national legislation. In case that there are special designations in the legislation, they are to be named. (If available) Describe the status of the protected habitat:
- On international level
- On national level
- On federal level
- On site level (Not necessary, only if available)

Information about habitat/population size and trends in the context of other European countries should be given to draw a veridical picture of the status of the particular habitat. By this a particular responsibility for the executive country/region/site can be outlined.

4. Actions

Further steps based on the knowledge about existing gaps are to be outlined. Actions shall firstly represent answers to threats and pressures and should be coordinated with or at least referred to already existing programmes or efforts of any kind.

It is important to list the actions according to their priority (Essential, high, medium, low)! Producing the assessments the objective of reaching a favourable conservation status has to be kept in mind!

4.1 Overall goals

4.2 Objectives for conservation sorted by priority – Management Concepts

4.3 Actions necessary to reach the objectives

(short term = next 2 years; mid term = next 2-5 years; long term next 5-10 years)

5. Species/Habitat management and protection

6. Future research and monitoring

6.1. Long term monitoring and future research activities

7. Communication, public awareness

8. Common transnational strategy

9. Common transnational strategy for financial management of Natura 2000

9.1 Subsidies and funding

Either the financial demand for proper management of all sites of the habitat type/populations of the species as well as all possible ways national and international funds and subsidies should be listed. The costs should be divided into primary, unique measures and continuous measures.

Table 2: Structure and content of the Joint Transnational Action Plan on habitats and species

All action plans should follow the same structure and contain the same information. For the implementation of the direct interventions on site level, a check list from the “Fen management handbook” ([McBRIDE et al. 2011](http://www.snh.gov.uk/about-scotlands-nature/habitats-and-ecosystems/lochs-rivers-and-wetlands/fen)) has been adopted (Table 3). It can be used as a supplement for protected area manager or site manager in order to implement
the recommendations from the Action Plans/respectively management plans. Following
the recommended points, this tool can help to avoid missing out important steps.

<table>
<thead>
<tr>
<th>Task</th>
<th>Yes</th>
<th>Irrelevant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify restraints on management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify any restraints imposed by or associated with: Designations (site, local, regional)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Archaeological evidence which may be buried in the fen</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Services (power, telecommunications)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Public access/rights of way</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Land ownership or tenancy agreement</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Decide what you are trying to achieve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establish objectives (maintain or encourage key species? maintain status quo? more open water? control scrub invasion? raise water table?)</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Identify target habitat(s) and species</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Identify target hydrological regime</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Compare existing and target regimes and identify issues/ problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establish how target species/habitat(s) differ from the current species/habitats present</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Establish how target hydrological/management regimes differ from current regimes</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Loss of or change in species/habitat</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Changes in hydrology or nutrient status</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Causes of changes in species/habitat/hydrology/nutrient status</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Identify necessary changes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establish what you need to do to achieve target regime/habitat or address problems</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Identify suitable techniques to achieve changes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consider appropriate vegetation, water and nutrient management techniques</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Fen Vegetation Management</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Nutrient Enrichment,</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Research/draw on experience</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Evaluate suitability of techniques</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consider how restraints identified above may limit choice of management options</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Assess what control you have over factors influencing changes, problems or issues</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Assess the costs of proposed management</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Assess whether the required management is realistically achievable</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Assess whether fen restoration is practical and sustainable</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Develop and implement action strategy to achieve objective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify funding sources</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Monitor outcomes</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Review and revise strategy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Check list for the management of the habitat types 7210* and 7230. (Source: The Fen Management Handbook)

Find the 7 exemplary Joint Transnational Action Plans on the official project homepage www.be-natur.it
4.2 Common monitoring tool

**Short description**
This tool is intended to be a complete Monitoring Guide covering all features selected in the BE-NATUR project. Based on the Gap Analysis Joint Transnational Action Plans were developed in order to some of the most prominent habitats and species with a transnational distribution range in Europe. As a result of the Action Plans, direct and indirect interventions related to the protective objectives for the target habitat groups and species were developed by each project partner. The present monitoring tool is aimed to assess the conservation status of these features and the success of the interventions. Therefore, it is inevitable to assess the conservation status before the interventions are being carried out to have baseline data necessary to draw correct conclusions.

**Goal**
The goal is to design a monitoring tool to survey the current conservation status of habitats and species and the success of the direct interventions

**Target group**
Protected area manager or any consultancy who are responsible for the planning of the direct interventions and the implementation of the monitoring

**Time frame**
Basic assessment should be carried out previous to interventions are implemented
The frequency of the assessments has to be adapted to the specific species or habitat

**Requisites**
Up-to-date cartographic materials such as aerial photographs, landuse maps...
Any existing survey data such as vegetation maps, distribution maps...
Exact knowledge on the location, extend and possible impact of the interventions

**Detailed description**
The development of a common monitoring method represents a crucial step in the structure of the “Joint Transnational Strategy”. The goal is to design a monitoring tool in order to survey the current conservation status and the success of the direct interventions. There are already monitoring approaches developed by some EU-member states. As defined in the proposal of the “BE-NATUR”-project a common tool applicable for all member states should be developed to harmonize management of Natura 2000 features of conservation interest.
Based on the Gap Analysis Joint Transnational Action Plans were developed in order to some of the most prominent habitats and species with a transnational distribution range in Europe. As a result of the Action Plans, direct and indirect interventions related to the
protective objectives for the target habitat groups and species were developed by each project partner. The present monitoring tool is aimed to assess the conservation status of these features and the success of the interventions. Therefore, it is inevitable to assess the conservation status before the interventions are being carried out to gain baseline data, which are essential to draw correct conclusions.

The conservation status of a habitat or a species can be defined at three different levels:

- The uppermost level is the conservation status at EU-level, describing the distribution range and trend, important structures and the conservation status of characteristic species.
- The second level is the “degree of conservation” at the Natura 2000 site, which describes the structure, function and recovering capacity of the feature of conservation.
- On the other end of the scale there is the “local degree of conservation” which describes the conservation status of the individual plots or single populations.

The EU’s guidelines

According to Article 1 from the Council Directive 92 / 43 EEC (habitats directive) the definition for the favorable state of conservation is:

Conservation status of a natural habitat and species means the sum of the influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species within the territory referred to in Article 2.

- The conservation status of a natural habitat will be taken as ‘favorable’ when:
- Its natural range and areas it covers within this range are stable or increasing, and
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- The conservation status of its typical species is favorable as defined above

According to the EUROPEAN COMMISSION’S GUIDANCE (2007) for the description of the Favourable conservation status uniform categories are to be used (EDGAR P. & GENT T. 2005):

<table>
<thead>
<tr>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Favorable Conservation status</td>
</tr>
<tr>
<td>Unfavorable Conservation status</td>
</tr>
<tr>
<td>Unknown</td>
</tr>
</tbody>
</table>

The present approach is indicating that every status but A should be considered as “unfavorable”. This approach is more radical than the approach used by ELLMAUER (2005)
and BFN (2010), which tends to draw a rather positive picture of the conservation status of a protected species or habitat:

**A:** excellent conservation status  
**B:** good conservation status  
**C:** medium to bad conservation status

On the long term the development or trend of a certain indicator can be of much higher significance than the actual situation. A value of B can be considered as passable, but if the conservation status has dropped from a former A to an actual B this means a significant deterioration. Therefore, EDGAR & GENT (2005) propose that an unfavorable, but improving conservation status should be indicated by a further remark showing (+), for continuing decline (-) can be added. Additionally, an expert statement has to be added which should contain a qualitative and objective evaluation of the situation. This written evaluation is inevitable for a precise interpretation, whereas a “stand-alone”, aggregated value of A, B or C may not be sufficient to show all aspects.

**Field survey: Habitats**

In order to make clear which habitats are to be monitored, firstly an exact mapping of the existing habitats has to be carried out. All polygons that contain a habitat type have to be displayed. The minimum resolution of the Orthophotos should be 1:10,000 (1:5,000 would be ideal). From a technical point of view there is no minimum size of a polygon. Also habitats that may be smaller than 50 m² have to be displayed in the maps. This is also valid for very narrow habitat stripes, such as remains of riparian forests along rivers, which are oft only a few meters in width. They should also be displayed as polygon features, even if the delineation has to be carried out at very high resolution.

The exact size of the habitat polygons has to be indicated, because this data forms the basis for further interpretation of the development of the conservation status.

Large biotopes such as forests or waste grasslands have to be investigated via random sampling method, where the density of sampling plots depends on the variance of the habitat.

In case that a habitat is significantly heterogeneous concerning the conservation status of its subunits, it has to be divided into singular polygons (e.g.: Parts of dunes are covered by shrubs and bushes, fens that are partly drained...)

**Operational guideline**
The monitoring schemes added in the annex shall be used in order to create a homogenous dataset throughout Europe. The monitoring scheme itself is providing a structure to follow, but also concedes a certain flexibility to the executing scientist. Basically, criteria are aggregated to one value for each indicator. All three indicators are then aggregated to a total value, which is shown in the following scheme:

![Diagram]

**Figure 3: Scheme showing the process of assessment of the Conservation status**

For practical purposes, there is basically no weighting of the particular criteria and indicators in this approach. Nevertheless, some criteria may have a much higher impact on the conservation status than others. In case that the expert opinion is diverging from the aggregated value, the expert opinion will overrule the aggregated value. In such a case a short but clear statement has to be given in order to make the decision comprehensible.

Looking at the habitat scheme, for each of the three main indicators such as “Integrity of characteristic habitat features”, “Integrity of characteristic species inventory” and “Disturbances” an aggregated conservation status should be assigned.

The pressure indicators “disturbances” are being calculated in a way that the worst value is determining the aggregated value (only one criterion assigned as C is enough to make the whole aggregate “Disturbances” C). This approach is susceptible to over-
estimation of certain criteria, therefore the scientist’s ability of proper appreciation and evaluation of the state of the criterion is crucial. The whole procedure has to be carried out for every single subplot. This is the only way to create a distinct picture of the singular subplots of each habitat type at a site. A comprehensive set of baseline data is essential for a sound management concept.

The same procedure should be applied for the species monitoring scheme. The main topics are “Status of population”, “Habitat quality” and “Disturbances”. In this case, only status of population can be calculated according to the matrix shown below, all other values have to be calculated via the lowest value.

In case of only **one criterion**, the conservation status of the indicator is taken over.

![Raster Scheme for One Criterion]

In case of **two criteria**, following raster scheme should be applied:

<table>
<thead>
<tr>
<th>Criterion I</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>B</td>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>C</td>
<td>B</td>
<td>C</td>
<td>C</td>
</tr>
</tbody>
</table>

In case of **three criteria**, following raster scheme should be applied:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>B</td>
<td>A</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>C</td>
<td>A</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>D</td>
<td>B</td>
<td>D</td>
<td>D</td>
</tr>
</tbody>
</table>

The overall conservation status will be calculated in the same way y the values of the main indicators “Integrity of characteristic habitat features”, “Integrity of characteristic species inventory” and “Disturbances”, respectively “Status of population”, “Habitat quality” and “Disturbances” for the species.

In case of **four or more criteria**, the worst value will determine the total value of the indicator (as mentioned above).
4.3 IPAM-Expert system

**Short description**
The expert system was developed to support protected area managers through a system of self-assessment, focused recommendations and a comprehensive knowledge base. The outputs are condensated in a progress report that points out the deficits in planning and managing the protected area, including also recommendations for further steps.

**Goal**
Self assessment of management status, sharing of results and experiences.
Searching for specific information and new developments

**Target group**
Planners, managers and consultants of protected areas

**Time frame**
This tool can be implemented throughout any phase of the management process of Natura 2000

**Requisites**
Internet access and a web browser to load the web page [www.ipam.info](http://www.ipam.info)

**Detailed description**
Abstract form the project report of the IPAM-Toolbox Integrative Protected Area Management by JUNGMEIER et al. (2005)

Many of the protected areas’ managers and planners see themselves drowning in (ir) relevant information but moan about a significant lack of knowledge. The IPAM-Toolbox intends to bridge this gap and has been developed in order to provide focused information for the question “what to do, when and how?”. The interactive “toolbox” shall provide substantial information on integrative management of protected areas by means of new information technologies.

The toolbox is free of charge and provides up-to-date information that is based on an internationally accepted concept. It is applicable for all relevant international categories of protected areas. The toolbox can be accessed on the IPAM homepage ([www.ipam.info](http://www.ipam.info)). Furthermore, a detailed technical documentation (expert system booklet) and a demo-version are available.

Planners and managers of a typical protected area have to run through all the fields of activity. These fields of activity have been developed in close cooperation with international experts and international institutions (IUCN, Europarc, Ramsar Convention, Man...
and the Biosphere (UNESCO)) and are shown with a comprehensive overview of all obligations included in protected area management in the following figure:

The expert systems in general and the IPAM expert system in specific are built up in order to reduce complexity and provide focused information only. The IPAM-Toolbox consists of three components:

- **Self-assessment.** In a procedure of self-assessment filters are set up in order to primarily eliminate information being irrelevant for the situation and to (later) rank information by importance. An important element of this self-assessment is a clear allocation of the protected area in various “fields of activities” (FoA). Along the life-cycle of a protected area 28 FoAs were identified and described. By running through an ideal life-cycle (Preparing, Basic Planning, Detailed Planning, Implementation and Management) all FoAs are covered and therefore provide a helpful framework to determine the protected area's position. In an interactively guided process the user of the expert system answers a bundle of key questions to identify the recent position and the evident problems.

- **Recommendations.** On a general level, of course, but highly corresponding to the recent situation of the protected area the expert system provides a set of recommendations. The conceptual structure behind these recommendations is the analysis of the difference between FoAs needed in the very situation and the FoAs that really have been executed (well) so far. The recommendations are provided in standardized reports. So, they also allow reporting on the progress of the development or management of the protected area (time series). The system's information are illustrated by some examples of “best practice” and furthermore lead to the most detailed information that is provided in the knowledge base.

- **Knowledge Base.** In a comprehensive database various examples of “best practice”, in-depth information about literature, projects and available data as well as links and further expertise are proposed. The information is automatically ranked be requirements deriving from the self-assessment but can also be selected individually. The content of the knowledge-base focuses geographically on Middle and Eastern Europe but provides also international standards and approaches.
Figure 4: Fields of activity in protected area management – an overview

<table>
<thead>
<tr>
<th>Phases</th>
<th>Fields of activity (FoA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-phase</td>
<td>Development of Idea and Vision</td>
</tr>
<tr>
<td></td>
<td>Feasibility check</td>
</tr>
<tr>
<td></td>
<td>Communication and Participation I</td>
</tr>
<tr>
<td></td>
<td>Incorporation into PA-Systems</td>
</tr>
<tr>
<td>Planning Phase</td>
<td>Planning Handbook</td>
</tr>
<tr>
<td>Basic Planning</td>
<td>Communication and Participation II</td>
</tr>
<tr>
<td></td>
<td>Basic Investigation</td>
</tr>
<tr>
<td></td>
<td>Implementation Planning</td>
</tr>
<tr>
<td></td>
<td>Designation and Establishment</td>
</tr>
<tr>
<td>Detailed Planning</td>
<td>Mission Statement and Basic Concepts</td>
</tr>
<tr>
<td></td>
<td>Ecosystem-based Management Plans</td>
</tr>
<tr>
<td></td>
<td>Design of (Regional) Economic Programs</td>
</tr>
<tr>
<td></td>
<td>Specific Planning (Subsidiary Plans)</td>
</tr>
<tr>
<td>Implementation Phase</td>
<td>Personnel and Organizational Development</td>
</tr>
<tr>
<td></td>
<td>Evaluating Management Effectiveness</td>
</tr>
<tr>
<td></td>
<td>Financing (Business Plan)</td>
</tr>
<tr>
<td></td>
<td>Impact Assessment and Limitation</td>
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<tr>
<td></td>
<td>Data and Information Management</td>
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<tr>
<td></td>
<td>Research Setting and Monitoring</td>
</tr>
<tr>
<td></td>
<td>Communication and Participation III</td>
</tr>
<tr>
<td></td>
<td>Development of Protected Aras’s Region</td>
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<tr>
<td></td>
<td>Co-operation Design</td>
</tr>
<tr>
<td></td>
<td>Information, Interpretation and Education</td>
</tr>
<tr>
<td></td>
<td>Visitor Management, Services and Infrastructure</td>
</tr>
<tr>
<td></td>
<td>Marketing and Public Relations</td>
</tr>
<tr>
<td>Networking Phase</td>
<td>Networking Economic</td>
</tr>
<tr>
<td></td>
<td>Networking Social</td>
</tr>
<tr>
<td></td>
<td>Networking Ecological</td>
</tr>
</tbody>
</table>
4.4 Training needs assessment

**Short description**
This tool is presenting a system to identify the skills and competencies ideally required to run the management of the protected areas network of Natura 2000. Additionally, the gaps between the actual and the desired situation can be identified.

**Goal**
Improving the performance of the management body by identifying skills and their distribution among management staff.

**Target group**
Administrative bodies who are in charge of coordination of several Natura 2000 sites or managers.

**Time frame**
An assessment should be repeated on a yearly basis.

**Requisites**
Knowledge on all skills necessary to run a protected area.
Survey form covering all relevant skills.

**Detailed description**

Besides financial resources the “human capital” is a crucial factor for sound management of protected areas. The field of protected area management is a very extensive one and is covering a number of different activities and competencies. These skills reach from the correct use of chain saws and the handling of agricultural machinery up to management skill such as mediation or organizing funds. In order to improve the management of Natura 2000 in Europe, a common standard for the assessment of strengths and weaknesses can be very helpful. Therefore, the skills necessary to run a protected area (or a network, like Natura 2000) have been identified and transformed into an organigramm by JUNGMEIER 2011.

In a first step, PA management has to identify all skills and competencies which are necessary to run this specific PA. In the next step for every person in the management chain a “Training Needs Assessment” should be carried out representing her/his personal profile. By overlaying all profiles of the management it becomes obvious in which fields’ deficiencies are hidden and where competences are concentrated. This perception bears highly valuable information for an improvement of the current management situation.
The pyramid of individual (see Figure 5) and institutional (see Figure 6) competencies is structured into levels. The singular fields can be exchanged with regard to the specific needs and challenges every PA has to deal with.

![Figure 5: Exemplary individual competencies](image)

![Figure 6: Exemplary institutional competencies](image)

All following explanations are based on an imaginary Protected Area with imaginary needs and competencies. All individuals FoAs can be exchanged according to the needs and demands of the PA.

The “Technical and personal competencies” form the bottom of the pyramid (Level I). The clusters are: 1) Communication, 2) Languages, 3) Outdoor competencies, 4) Land management, 5) Administrative tasks, 6) Knowledge on park/site and 7) Technicians. A detailed list of the individual skills is shown in Figure 7.

“Tools and skills for protected areas” follow (Level II) the structure of the IPAM-toolbox (Fields of Activities, FoA) (JUNGMIEIER et al. 2003). In case that the PA already exists, the preface can be cancelled and substituted by other phases (such as “Networking”).

The “Integrated management” at the top of the pyramid (Level III) consists of two main competencies: Business administration and Management of Protected Areas. Business administration is thought to cover all administrative efforts such as Branding, marketing and public relations, Human resources and organisational development, Business
administration, Project- and programme-management. PA Management includes all skills and knowledge related to nature conservation issues such as legal background on a European and national level....

For the management of a protected area (network) the clear objective should be to show maximum competence at all three levels and in all disciplines. Of course, this cannot be accomplished by one single person. Therefore, the total of all persons, each of them with different skills and emphases, involved into the management process should cover all competencies. The present tool gives the opportunity to identify the gaps and deficiencies in the management hierarchy.

![Exemplary scheme showing the technical and personal competence clusters at the first level](image)

An Excel-Sheet providing the tool (and filled with preliminary competencies) can be downloaded at: [www.be-natur.it](http://www.be-natur.it)
4.5 Financial portfolio for protected area management

<table>
<thead>
<tr>
<th>Short description</th>
<th>The financial portfolio presents a kind “financial gap analysis” which is intended to give an orientation on the financial planning of protected areas. The potential strategies of funding shall be collected and their impact and complexity shall be visualised in a matrix.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>Assessment and improvement of the financing aspect of management of Natura 2000</td>
</tr>
<tr>
<td>Target group</td>
<td>Administrative bodies who are in charge of coordination of several Natura 2000 sites or managers</td>
</tr>
<tr>
<td>Time frame</td>
<td>Previous to the designation process of a Natura 2000 site or throughout the whole management process. A regular assessment should be carried out on a yearly basis.</td>
</tr>
</tbody>
</table>
| Requisites          | List of all relevant financing mechanisms  
Excel-sheet containing the ration required to display the diagram |

Detailed description

The performance of a protected area is closely linked to the financial resources of the site (GETZNER et al. 2010). Management of Natura 2000 is in most cases depending on a mix of public financing and other funding sources. Once potential financing mechanisms have been identified as viable for a particular protected area, a site manager must prioritize among them. After all, to research, design and then implement financing mechanisms requires resources.

In order to rank the particular financing mechanisms by priority, a financing portfolio according to EMERTON et al. (2006) can be recommended. In this approach all relevant sources of founding shown in Table 4 should be placed in the matrix according to their “benefits” and the “degree of complexity”. By that, all mechanisms with a low complexity and a high impact become immediately visible. Figure 8 below places each finance..
mechanism in a box which then suggests the priority which should be accorded that particular mechanism.

Figure 8: An exemplary financing portfolio; Basic scheme showing the system of prioritizing among finance mechanisms

Sources of funding for protected areas

<table>
<thead>
<tr>
<th>International sources</th>
<th>1 Multilateral banks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 Global Environment Facility (GEF)</td>
</tr>
<tr>
<td></td>
<td>3 Bilateral development co-operation agencies etc.</td>
</tr>
<tr>
<td></td>
<td>4 Foundations with an international remit</td>
</tr>
<tr>
<td></td>
<td>5 International non-governmental organisations with an international remit</td>
</tr>
<tr>
<td></td>
<td>6 Alternative financial mechanisms</td>
</tr>
<tr>
<td>National-level mechanisms</td>
<td>7 Taxes, levies, surcharges and tax incentives</td>
</tr>
<tr>
<td></td>
<td>8 Tax deduction schemes</td>
</tr>
<tr>
<td></td>
<td>9 Grants from private foundations</td>
</tr>
<tr>
<td></td>
<td>10 National environmental funds</td>
</tr>
<tr>
<td></td>
<td>11 Debt swaps</td>
</tr>
<tr>
<td></td>
<td>12 National and provincial lotteries</td>
</tr>
<tr>
<td></td>
<td>13 Public-good service payments</td>
</tr>
<tr>
<td></td>
<td>14 Workplace donation schemes</td>
</tr>
<tr>
<td>Site-level mechanisms</td>
<td>15 User fees</td>
</tr>
<tr>
<td></td>
<td>16 Cause-related marketing</td>
</tr>
<tr>
<td></td>
<td>17 Adoption programmes</td>
</tr>
<tr>
<td></td>
<td>18 Corporate donations</td>
</tr>
<tr>
<td></td>
<td>19 Individual donations</td>
</tr>
<tr>
<td></td>
<td>20 Planned giving</td>
</tr>
<tr>
<td></td>
<td>21 Site memberships and &quot;friends&quot; schemes</td>
</tr>
</tbody>
</table>

Table 4: Sources of funding for protected areas

An Excel-Sheet providing the tool can be downloaded at: www.be-natur.it
References


European Environmental Bureau (EEB) (2011) Where there is a will there is a way: Snapshot report of Natura 2000 management, Brussels, 23p


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Lengyel, S., Kobler, A., Kutnar, L., Framstad, E., Henry, P.Y., Babij, V., Gruber, B., SchmellerD., Henle, K. 2008: A review and a framework for the integration of biodiversity monitoring at the habitat level


Annex:
All annexes and documents are available for download at www.be-natur.it

- Joint Transnational Tools and Strategy
- Joint Transnational Action Plans
- Tool for Training needs assessment available as an Excel-file
- Tool for Financial Portfolio available as an Excel-file
- Data forms form the Monitoring Tool
- Tool for the IPAM Expert System at http://ipam.info
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**PRA** - Province of Ravenna
**TORRE GUACETO** - Consortium of management of Torre Guaceto
**Strandja NPP** - Strandja Nature Park Directorate
**RVE** - Veneto Region - Spatial planning and parks department
**DDNI** - Danube delta national institute for research and development
**TM** - Timis County represented by Timis County Council
**LBDCA** - Lake Balaton Development Coordination Agency
**Cacak** - City of Cacak
**DDBRA** - Danube Delta Biosphere Reserve Authority

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