

How to make Natura 2000 work properly? Socio-economic, legal and ecological management.

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Introduction & Goal



To halt the increasing biodiversity loss, the EU enhances an ecological network of Special Protected Zones, known as the Natura 2000 network. In Belgium, the delineation of the SPZ's has come to an end, but many questions arise concerning the management of these areas. The multiple use of the space gives rise to many conflicts of interest. In this project, we tend to couple socio-economical principles to ecological objectives to organise a sustainable use of the environment in the SPZ's. This research tries to investigate the social base for the conservation goals, whether the available instruments to reach them will be sufficient and what economical effort will be required.

Work package 1

- Implementation of European Guidelines for Natura 2000 in Belgium: process, responsibilities, resulting network

- Legal, social, economical & ecological bottlenecks of the Belgian Natura 2000 policy

General assessment of actual Natura 2000 network in its historical context

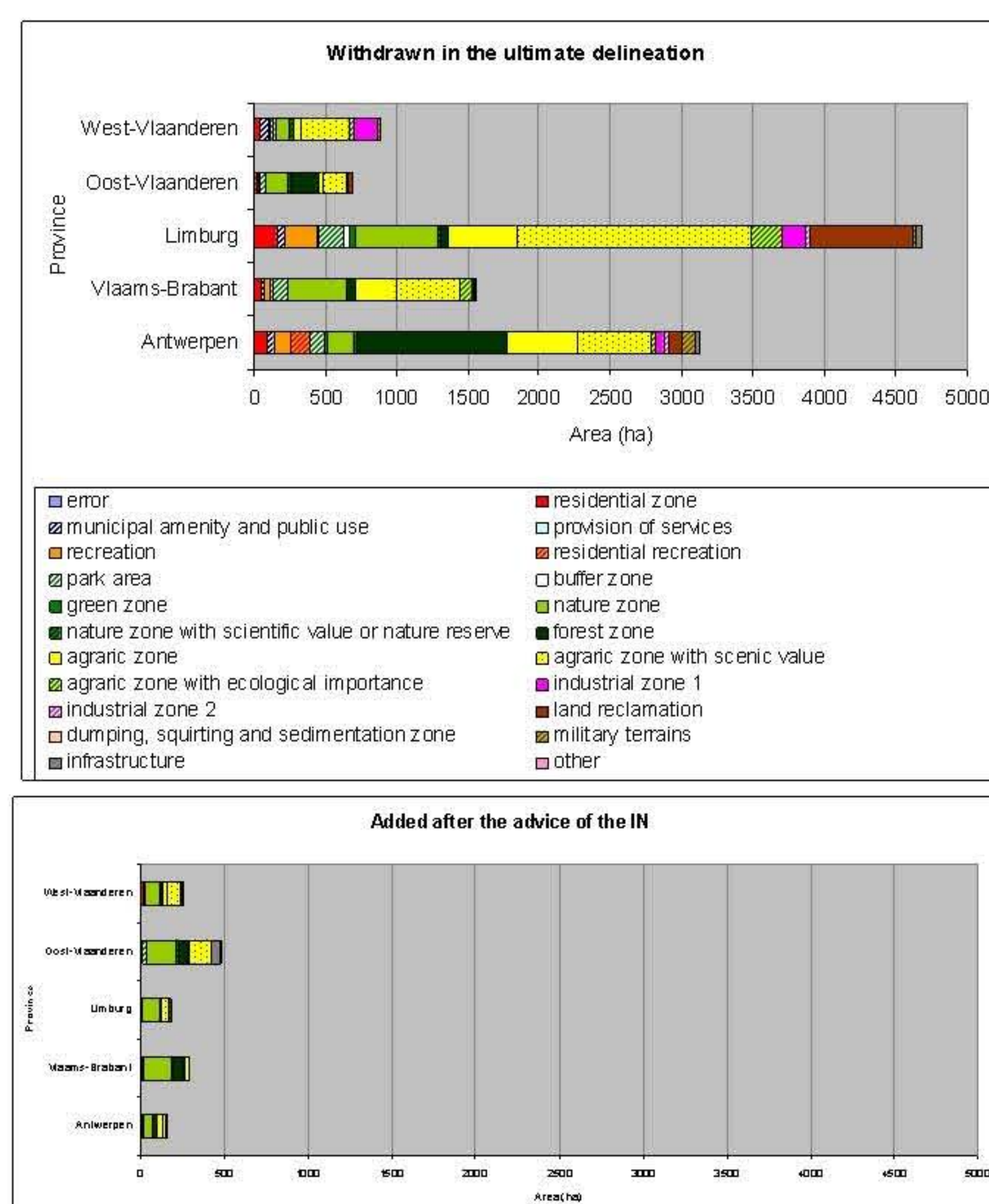


Figure 1. Structures taken out from (top) or added to (bottom) the proposal of pSCIs (proposed Sites of Community Importance) by the IN (Institute for Nature conservation), obtained by a comparison of the advice by the IN in 2000 with the final delineation of pSCIs in 2001 and laid over the Flemish spatial zoning plan.

Ecological bottlenecks

Incomplete scientific knowledge

Difficulties for the interpretation of the habitat types

Defined on a European level

Not easy to classify

Complexes of habitats (transitions, superpositions, mosaics,...)

Pragmatism of the scientific approach

Difficulties for the argumentation

Long-term evolution of the ecosystem

Human induced evolution

Natural evolution

Habitat fragmentation

Work package 2

- How to adopt adaptive management in the planning process & implementation?

- What is the efficiency & social acceptance of different instruments for the implementation of Natura 2000?

- Is there a need for new instruments?

Socio-economic, legal and ecological evaluation.

Study areas:

Demer valley & Lesse valley



Good management planning = proper N2000 management?

Figure 2. Scheme of a good management plan.

Research goals:

What is an appropriate management plan?

Recommendations for the implementation strategy to enhance Natura 2000 results.

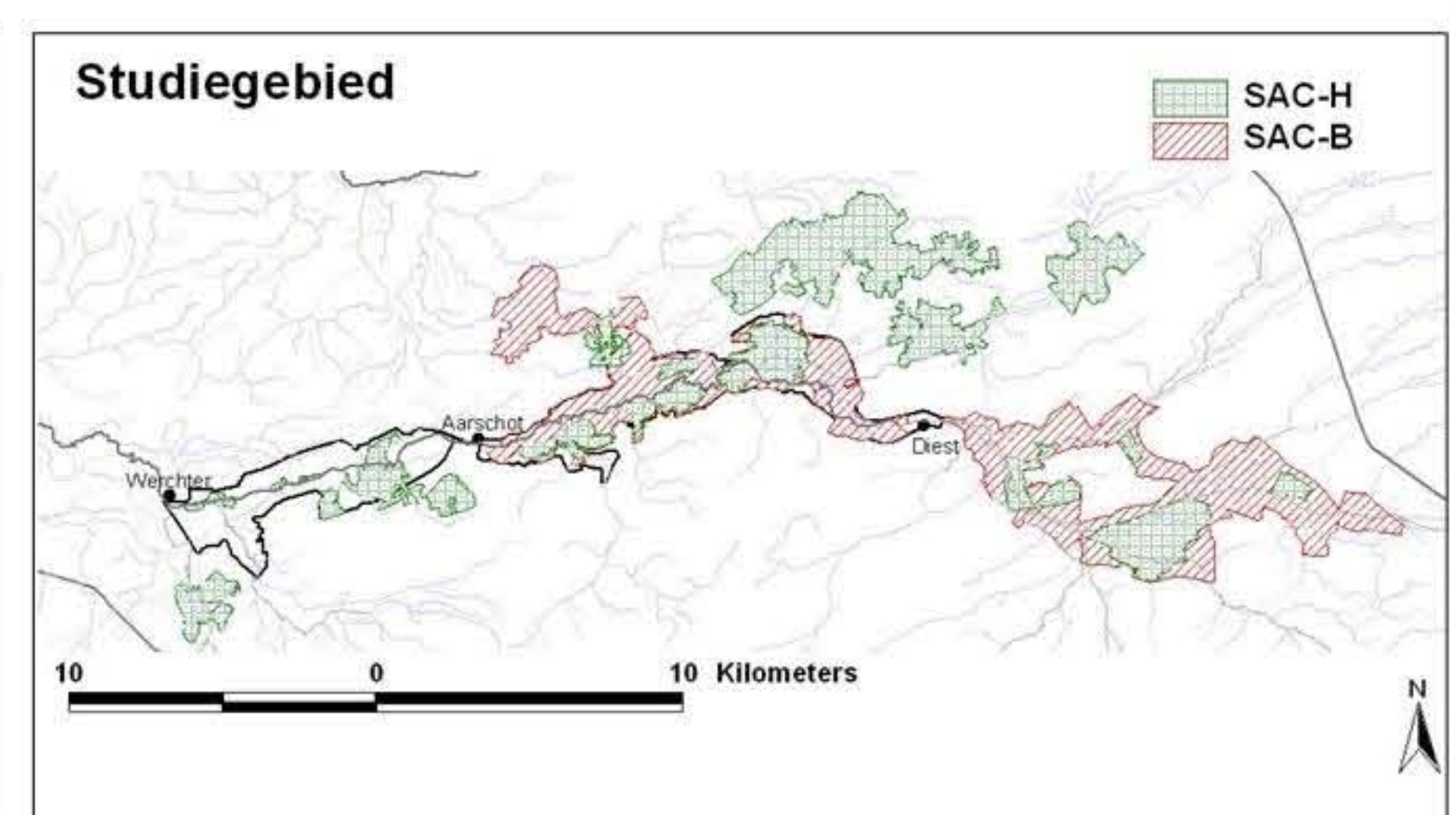


Figure 3. Study area in Flanders: the Demervalley.

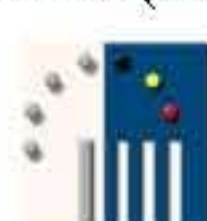
SAC-H: Special Areas of Conservation → Habitat Directive
SAC-B: Special Areas of Conservation → Bird directive

In coöperation with:

Resource Analysis NV (Jan Vincke, Stan Weyns, Greet Nulens), Universiteit Catholique de Louvain (Charles-Hubert Bom, Daniel Tyteca, Marie Mahy, Valérie Grogna), Faculté Universitaire des Sciences Agronomiques de Gembloux (Grégory Mahy, Julien Taymans)

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Introduction & Goal

To halt the increasing biodiversity loss, the EU set up a legal framework for an ecological network of Special Protected Zones, known as the Natura 2000 network. In Belgium, the delineation of the Natura 2000 sites has come to an end, but many questions arise concerning the management of these areas. The **multiple use of the space** gives rise to many conflicts of interest. In the SELNAT-project, we try to couple socio-economical principles with ecological objectives to organize a **sustainable use of the environment in the Natura 2000 sites**. In particular, feasibility and effectiveness of considered implementation instruments, social support, inequality between beneficiaries and payers, compatibility of ecological and socio-economic development are studied in this **multidisciplinary research**.

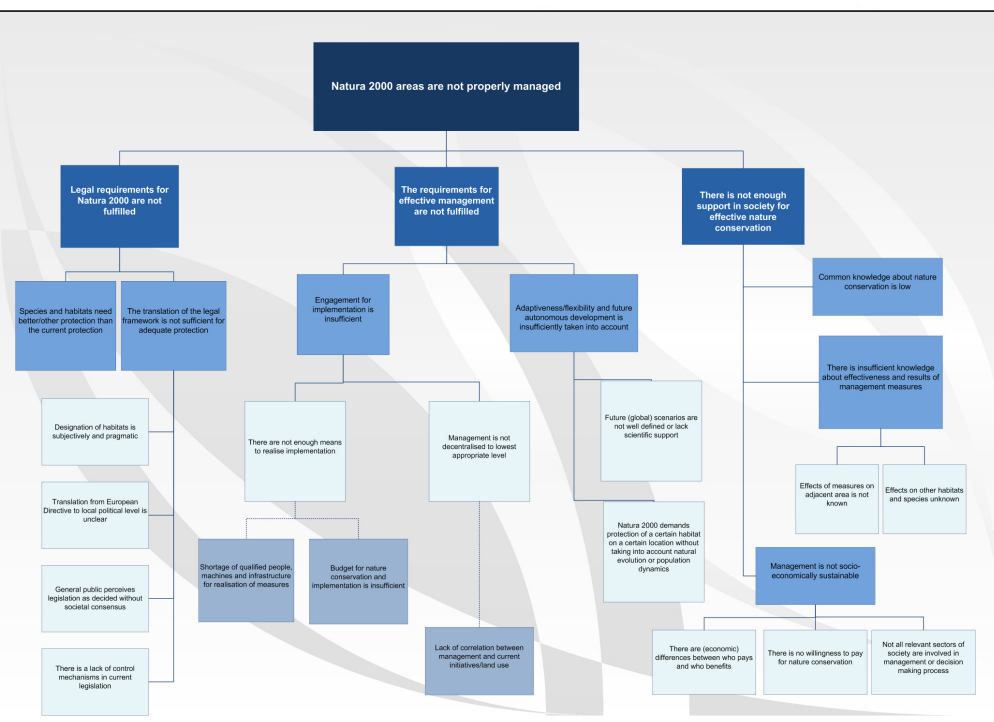


Fig. 1: Problem tree of Natura 2000 – Synthesis of the main bottlenecks for the implementation of the Natura 2000 network in Belgium

→ **Assessment of effectiveness and feasibility of some instruments** for N2000 implementation by means of a literature review and 2 surveys of experts and local stakeholders

Survey 1 Questions :
 -How do stakeholders perceive “feasibility” and “effectiveness” terms?
 -How do they score different instruments on their feasibility and effectiveness?
Target public : stakeholders at the regional/national level

Survey 2 Question : -What does make instruments for Natura 2000 feasible for users?
Target public : local users from different sectors (forestry, agriculture, nature protection, municipalities, tourism, industry) in 2 study sites : the Demer valley, in Flanders, and the Lesse valley, in Wallonia

→ Goal of the instruments assessment = Providing guidelines and recommendations for the elaboration of a **good management plan**. This one should :
 - comprise **different strategies**, including a set of instruments adapted to different specific situations,
 - be **adaptive** (allowing changes in priority and timing of implementation of instruments in relation to the future evolution of environment and society)

Work package 1

Goal :

- Multidisciplinary analysis of the implementation of European directives and highlighting of legal, social, economical & ecological bottlenecks of the Belgian Natura 2000 policy.

Result : General assessment of actual Natura 2000 network (fig. 1)

Work package 2

Goal :

- Socio-economic, legal and ecological evaluation of instruments

Research questions :

- How to adopt adaptive management in the planning and implementation process of Natura 2000?
- What is the effectiveness and feasibility of different instruments for the implementation of Natura 2000?

WP2 currently in progress

→ **Ecosystem Approach** = a framework for an integrated and sustainable management of Natura 2000 sites (fig. 2)

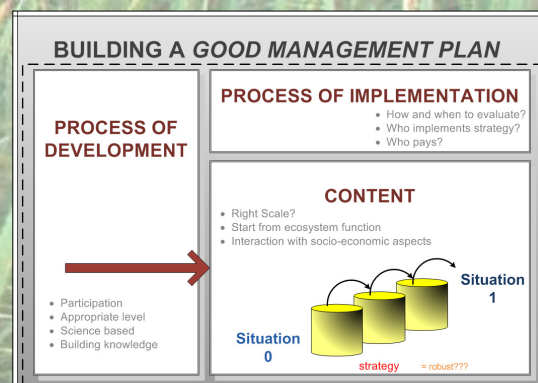


Fig. 2: Building of a good adaptive management plan for Natura 2000 sites, in regard to the ecosystem approach principles

Work package 3

Making of policy recommendations concerning the better functioning of the Natura 2000 network, taking the socio-economical context into account.

Short-paper : Summary of the poster

Reference of the submission: SER_0442

Title of the poster: SELNAT project : How to make Natura 2000 work properly? - Socio-economic, legal & ecological management

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Introduction

As shown in a large number of scientific studies and recent research, there is a major problem of loss of biodiversity in Europe and, on a larger scale, in the whole world. Plant and animal species vanish at a dazzling speed. Today, scientists believe the observed extinction rate is up to 1000 times faster than the natural rate. The main reason for this unnatural fast extinction rate is the impact of man on his environment. All around the world, ecosystems and natural resources are used and exploited in a non-sustainable manner, leading to an ever-increasing pressure on species and their habitats.

At the end of the 20th Century, the European Community understood that radical measures were necessary to counter this negative spiral of biodiversity loss. Therefore, an ecological network of protected areas with a high ecological value due to their specific habitat and/or the presence of specific species was established, the so-called NATURA 2000 network. The areas designated in the Birds and Habitats Directives were the foundation for the delineation of this network. For both, levels of protection and special areas are defined: Special Protection Areas for the Birds Directive and Special Areas of Conservation for the Habitat Directive. In Belgium, the delineation of these Special Protection Zones has come to an end, but many questions arise concerning the management of these areas. The multiple use of the space gives rise to many conflicts of interest.

SELNAT is a two-year research-project financed by Belgian Scientific Policy that aims to answer the question “How to make Natura 2000 work properly?”, taking into account socio-economic, legal and ecological aspects. A multidisciplinary team of researchers works on this project. This team is composed of ecologists from Katholieke Universiteit Leuven and Gembloux Agricultural University, lawyers and economists from Université

Catholique de Louvain and sociologists from Resource Analysis n.v.. In the SELNAT-project, we tend to couple socio-economical principles to ecological objectives to organize a sustainable use of the environment in the Natura 2000 sites. In particular, social support, inequality between beneficiaries and payers, compatibility of ecological and socio-economic development and feasibility and effectiveness of considered implementation instruments are all subjects to be studied.

First results of the research: highlighting of bottlenecks in the implementation of the Natura 2000 network

The main problem with the completion of the NATURA 2000 network is twofold. First of all, the state of most ecosystems and their functioning is in such a poor condition that far-reaching measures are necessary. Declining biodiversity and disappearing ecosystems are mainly the result of anthropogenic pressures: global loss of habitats or decreasing quality of endangered species habitats, overuse of stocks and resources, pollution, invasive species, global change, etc. In Europe, the environmental quality of most of our natural and semi-natural habitats is very low due to eutrophication and pollution with heavy metals, pesticides and other toxic substances. Above that, the total surface area of habitats is in general far too small due to the high urbanization of the territory. The remaining small protected areas suffer from higher external pressures as a sufficient buffer is lacking. Habitat fragmentation in its turn leads to inbreeding, genetic drift and the Allee effect.

Secondly, the complexity of the implementation process, as well as the specific interaction between all different users on all different policy- and management-levels demands an approach that is difficult to overview. Both aspects affecting the success of the network realization are discussed.

The NATURA 2000 legislation determines the translation of the European legislation into national legislation. It also imposes in a number of rules that the deterioration of the biological diversity of ecosystems should be stopped with all means possible. Although the implementation of the NATURA 2000 legislation has progressed considerably, many issues remain, impeding the progress on the field. Some of the main problems this European legislation is confronted with are put forward in the SELNAT research-project.

First of all, the demarcation of some of the protected areas has been done on the basis of what seem to be subjective criteria. This is however partially due to the difficulty of the interpretation of some of the habitat types and the complexity of natural habitats. The network remains too fragmentary and species are not able to migrate sufficiently enough in order to maintain sustainable populations and attain a favourable conservation status, as stipulated in the NATURA 2000 legislation. Also, the European legislation does not consider natural evolution and succession and therefore habitats should be kept in the state as reported to the European Commission. Natural succession towards a climax vegetation is not allowed for the sites. Besides that, there is a considerable lack of (scientific and indigenous) knowledge on the real effects of management and nature conservation measures on the targeted species and habitats and on adjacent areas.

From a socio-economic point of view, an important problem is the fact that perception of nature and ecology differs in our society. In general, public awareness and knowledge on ecosystem services and biodiversity remains poor. Ecologically valuable nature reserves are definitely appreciated by most people, but so are other 'green areas' like agricultural landscapes, city parks, etc. that have a much lower ecological interest. Therefore, restoration measures that delete one type of nature to replace it with another (more valuable) type, are often considered to be a waste of money and incompetent policy. A number of social and economic stakeholders have opposed to or tried to alter the demarcation of the areas for NATURA 2000, mainly because the legislation was considered to be a threat for their activities. Even though there is more attention to participation and sensibilisation in recent nature policy processes, there is still a problem of trust between many different stakeholders. Above that, NATURA 2000 creates confusion about the private property right, as the government should be able to acquire areas for the purpose of nature management. Another problem comprises the lack of scientific consensus about the economic valuation of nature. This results in a reduced leverage of ecological versus economic arguments and impedes the calculation of the actual economic cost of the implementation of the network. Furthermore, costs and benefits from conservation and ecosystem services very often belong to different (groups of) individuals, increasing the likelihood of conflicts. In addition, costs are mostly direct whereas benefits only arise on the long term.

Another problem for the final implementation of the NATURA 2000 network is the fact that the requirements for effective and good management of nature areas are not fulfilled. Due to a poor translation of (European) legislation to a local legislative level, policy makers and officials are not adequately aware of the necessary protection measures they are obliged to take. Also, effective control mechanisms and a clear delineation of responsibilities are absent. Because of a vertical difference in responsibilities and a horizontal diversity of policy approaches, the integrated character of sustainable management practices is never attained. Therefore, it becomes difficult to convince opponents of certain conservation and protection measures. Good management requires also sufficient resources. Since the (financial) means dedicated to nature management are below level, many problems arise during the realization. Cheap measures, rather than the more effective ones are applied and the supply of appropriate machinery and manpower remains too low. In addition, the lack of funding obstructs management to be decentralized to the lowest appropriate level. Besides an appropriate level of available resources for nature management, good management also implies an adaptive approach that takes future development of the area and society in general into account. Legislation and management plans, however, don't recognize this process sufficiently.

The development of an adaptive good management plan of Natura 2000 sites

Studying the implementation of the NATURA 2000 network remains a big challenge. Because of the complexity of the process and the interaction between all different users on all the different levels of policy and actual management, this research demands a

broad approach. Within the SELNAT-project, the integration of the Ecosystem Approach as a framework for an integral and sustainable management approach will be emphasized. The Ecosystem Approach can be seen as a working frame or strategy for the integrated management of land, water and living resources that promotes their conservation and sustainable use in an equitable way. This approach recognizes that humans, with their cultural diversity, are an integral component of ecosystems. This strategy aims at maximizing the gains from ecosystems services and at minimizing the negative impact of human development on ecosystem functioning.

In the scope of the SELNAT-project, the elaboration of a good management plan for the (local) development of the Natura 2000 network is to be investigated for two case-studies: the Valley of the Demer between Aarschot and Diest and the Valley of the Lesse at Rochefort. The first step in this research was to collect the different legal, economical, social and ecological bottlenecks concerning the current Belgian Natura 2000 policy, as mentioned above. After establishing a general view of the current situation of Natura 2000, the next phase consists of analyzing the effectiveness and feasibility of different kind of instruments for nature conservation management and policy development for nature.

In order to provide guidelines for the elaboration of a good management plan, we are identifying and analyzing the problems that people at the policy and local level are confronted with. Therefore, besides a more general literature study of several instruments for nature conservation, a websurvey was set up to investigate the perception of different stakeholder groups on the policy. In this survey, a collection of approximately 20 important nature conservation instruments was subjected to an evaluation by people from different Walloon and Flemish institutions and organizations that are familiar with nature conservation policy. The respondents were asked to indicate their level of feasibility and effectiveness for each instrument according to their experience. The goal of the survey is to come to a better understanding of the different views about the acceptance of current nature conservation policy. After this analysis, the perception of the local users and stakeholders at the scale of the two case-study areas towards the NATURA 2000 implementation will be studied. By tracking the perception of NATURA 2000 at this level, a better understanding of the social base for the network is to come forward. This better understanding should allow us to provide guidelines and recommendations for the elaboration of a good management plan. This plan should include different strategies (a whole of instruments) adapted to different specific situations. This management plan should be adaptive, that is allowing changes in priority and timing of implementation of instruments in relation to the future evolution of environment and society. The final goal of the project is to come to recommendations concerning the better functioning of the Natura 2000 network, taking the socio-economical context into account.