Natura 2000
- implementation and application in Sweden

Case study of Botniabanan and Tre Toppar

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Case study of Botniabanan and Tre Toppar

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Abstract

When Sweden first implemented Natura 2000 in 1995, it was done in a hurry and not all the information from the European Commission was interpreted as it was intended. The fact is that it took a long time for the authorities in Sweden to really understand Natura 2000 and its potential. The big break came in 2000 when the Swedish environmental Code was changed to match the regulations of Natura 2000. This created problems for already planned projects in Sweden that now had to follow the new rules. The implementation also provided the environmentalist management to advance at the expense of the spatial planning in a struggle about the governance over the landscape.

In this thesis the Natura 2000 network is described as an instrument and compared to other nature protections in Sweden. The thesis also gives a description on how Natura 2000 is built up and how it was and is implemented in Sweden. The Environmentalist paradigm and planning paradigm are described and presented in the case studies Tre Toppar and Botniaban. The development of the two cases is also described to get a picture of how differently they were managed and how different they turned out in the end.
1. Introduction

1.1 The problem
When Sweden first implemented Natura 2000 in 1995, it was done in a hurry and not all the information from the European Commission was interpreted as it was intended. The big break came in 2000 when the Swedish environmental Code was changed to match the regulations of Natura 2000. This created problems for already planned projects in Sweden that now had to follow the new rules. The implementation also provided the environmentalist management to advance at the expense of the spatial planning in a struggle about the governance over the landscape.

1.2 Questions
Our research questions are:

How did Natura 2000 affect nature protection in Sweden?

What are the conflicts in the governance of the landscape?

How did Sweden handle the two chosen cases of Botniabanan and Tre Toppar from a Natura 2000 view?

1.3 Previous research
Natura 2000 is often written about from a naturalistic view which makes it a bit hard to find anything written in other views. Of course nature is focussed when it comes to Natura 2000. The spatial planners view is seldom put down in writing. There can be and have been numbers of incidents where the spatial development has been slowed down by the Natura 2000 regulations.

The idea behind the thesis originates from the authors’ common interest for both nature and spatial planning. That there are conflicts between the two became clear after reading about the Environmentalist and Planning paradigms contradicting each other in Lars Emmelins and Peggy Lermans report to the Advisory board (Ansvarskommittén) “Styrning av markanvändning och miljö”\(^1\). Natura 2000 is one of the few examples where the environmentalist management have gained ground at the expense of spatial planning which made it an interesting subject to work with. To show different scenarios for how Natura 2000 is handled in Sweden we have chosen the study cases Tre Toppar and Botniabanan as examples. The materials used in the research are mostly Environmental Impact Assessments, reports to the Government and statements from the EG-court and Government.

1.4 Method
The method used in this thesis is based on information collected through literature, oral sources, interviews, the internet and scientific time scripts. Relevant and reliable documents and literature concerning our subject were found through the EU homepage and libraries. The

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Authors translation: *Governance over land use and environment.*

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results from the interviews were not always satisfying, mostly depending on that the persons with whom we tried to come into contact were not available or too busy. The answers that we got through interviews and by asking questions to some selected people can in some way be seen as partial for different reasons, such as background, education, working place etc.

The thesis starts with a clarification of what Natura 2000 is and why it emerged in order to get a better understanding of what this nature protection contains and means. Further on, we explain the different kinds of nature protection in Sweden in order to compare what Sweden had before and what it got after implementing the Natura 2000. To show the different types of nature protection that exist in Sweden we have used Swedish authorities’ homepages and literature. These authorities are responsible for the different protection means and that the rules are followed correctly.

To gain insight in and get in-depth with how Natura 2000 is handled in Sweden we used the collected information in two case studies. Our reason for choosing the Botniabanan and the Tre Toppar cases is that they both are large scale projects which make it easier to find information about them. Another important motive for choosing these two is that one (Botniabanan) was introduced and the other (Tre Toppar) was not. We have studied the EIAs (Environmental Impact Assessments) made for these projects as well as the belonging documents in order to find out how the decision-making and investments were done.
2. Why did Natura 2000 emerge?

Natura 2000 came to life in the EU to help stopping the extermination of animals and plants and to make sure that their habitats remain. Many of the plants that are unique for Europe have already been exterminated so the Natura 2000 network came as a necessary common way to stop the extinction process. The aim was to have the network ready during 2000, and to spread the news that the 21st century should be about caring for the environment.

Natura 2000 areas are selected so that protection worth species will have protected habitats, just to avoid extinction. The main reason for species to extinct is that their natural habitats are destroyed or influenced in a way that makes it impossible to maintain. Some of the selected areas might not be unique for the country concerned but might be important to protect from a European point of view. In numbers a total of over 170 habitats and 900 plants and animals are protected by the Natura 2000 today (2008).²

The protection of Natura 2000 areas varies depending on the values, habitats and species that are to be protected. Sometimes active management or restoring is needed and sometimes no changes need to be done.

The fundamental principle of the Natura 2000 network is that meadows are to remain meadows by managing appropriate caring of the area. Forests, on the other hand, are to be left to develop by themselves into natural forests that are not affected by forestry or special silviculture. Natura 2000 aims to maintain valuable nature but it is in no way a general stop for the ongoing land use or development of societies. What can be allowed and what cannot has to be decided in every individual case.³

The EU has committed itself politically to halt the biodiversity loss within their member countries by 2010. Over the last 25 years the Natura 2000 network has expanded to a total of 26 000 protected areas in the member states, covering around 850 000 km² which is more than 20% of the EU total territory. The Natura 2000 is the largest coherent network of protected areas in the world. It shows that the biodiversity is an important issue for the EU citizens.⁴

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3. Biological diversity

Biodiversity is defined by the Convention on Biological Diversity (CBD) as “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 within species, between species and of ecosystems”⁵. In conservation and in saving the richness of life and all its diverse patterns, biodiversity is one of the key terms. Europe has a unique natural diversity that needs to be preserved. However, biodiversity loss has accelerated both in the EU and worldwide. The extinction rate is estimated to be 1000 to 10,000 times higher than the natural extinction rate. In numbers, 42% of European mammals are endangered, 15% of birds and 45% of butterflies and reptiles.⁶

The creation of Natura 2000 is one of the most important measures from the EU to preserve biological diversity. It is the European Union contribution to meet the intentions in the Convention on Biological Diversity and in the Bern Convention on protection of European wild animals, plants and their habitats.

3.1 The Convention on Biological Diversity

The Convention on Biological Diversity (CBD) was signed at the Earth Summit in Rio de Janeiro, Brazil, in 1992 and was put into force on 29 December 1993. It was the first global agreement to cover all aspects of biological diversity. It contains the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of benefits arising from the use of genetic resources. The Secretariat is based in Montreal, Canada, and is an instrument to support the goals of the Convention.⁷

3.2 The Bern Convention

The Bern Convention entered into force 1 June, 1982. The aim of the Convention is to ensure conservation of wild flora and fauna species and their habitats, giving special attention to species that are endangered and vulnerable. The national governments that signed are to undertake the needed measures to ensure the conservation of the habitats of the wild flora and fauna. This includes planning, development policies and pollution control.⁸ The convention is a legally binding instrument and covers the whole natural heritage of the European continent and some African countries.⁹

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The Convention has established a Standing Committee in which the Parties are represented by their delegates. The Committee’s task is to monitor the provision of the Bern Convention both of the development of the flora and fauna and the assessment of the specific habitats requirements.\textsuperscript{10}

4. The base of the Natura 2000 network

The directives valid for the Natura 2000 areas are the Birds Directive and the Habitats Directive. These two directives, together with international agreements, also constitute the foundation of the EU nature protection policies. The most important international agreement concerning the protection of nature is the convention on biological diversity that was signed in Rio 1992 at the United Nations (UN) environment conference.

The two Directives are the framework of the EUs internal policy on biodiversity protection. To be able to protect landscapes, so that they can thrive and develop, the responsible authorities need to be in contact with other land users and planners. Therefore it is of great importance to formulate agricultural, regional, energy and transport policies with respect to sustainability so that the biodiversity and the specific natural capital in Europe are conserved and protected.11

Concerning both the Birds Directive areas and the Habitat Directive areas the member states are responsible for the care and the maintenance Natura 2000 areas need. They are also responsible for monitoring that the nature values are preserved so that the state of the concerned landscape and species remain favourable.12

The network of Natura 2000 means that all EU countries should take measures to keep landscapes and species at a favourable preservation status, which means to be protected and preserved in a long-term perspective. There can be many factors affecting the preservation status:

- For landscapes it can be a matter of an area being large enough, that the important ecological structures and functions are there and that the species typical for the area are viable.
- For species the crucial issues can be if there are enough individuals in the area, and if the reproduction is functioning, the species habitat needs also to be large enough for the species to be able to survive.13

Natura 2000 is divided into Special Areas of Conservation (SAC) under the Habitat Directive and Special Protection Areas (SPAs) under the Birds Directive which are designated by the member states. The Habitat Directive and The Birds Directive are also divided into biogeographical regions and applied to marine environments as well. As the Natura 2000 is not a system of strict nature reserves and most of the land remains privately owned, the emphasis on ensuring that the future management be both ecologically and economically

sustainable is very important. The network of protected areas also helps fulfil the Community obligation under the UN Convention on Biological Diversity.14

4.1 Birds Directive
In 1979 the European countries decided to introduce special rules for protection of birds. The Birds Directive affects a total of 200 species that occur in the member states. Of those 200 species, 66 live in Sweden. Every member state is obliged to take the measures needed to maintain viable populations of the different species of birds in and to take the necessary measures for those species that are listed in the directive’s annex 1. In these special protected areas the listed species are to be pointed out and in some cases habitats need to be restored for the birds. The Birds Directive also contains regulations that rule the countries possibilities to hunt birds.15

4.2 Habitat Directive
The Habitat Directive was set up in 1991.16 It treats landscapes and other species except birds. The habitat concept has a wide meaning and should contain information about geological formations, biotopes and plant societies. The different groups of species in the directive are mammals, frogs, fishes, molluscs, vessel plants, mosses. Lichens and algae are not included in the directive. All in all, 170 different landscapes are listed in the first annex of the Habitat Directive, and 88 of these exist in Sweden. Each member state is obliged to propose areas of common interest for the concerned landscapes and the species that are mentioned in annex 1 of the Habitat Directive. The member states are also responsible for carrying out the measures needed to maintain the habitat in the areas for the species to survive in viable numbers and to preserve the landscape in a long-term perspective.17

The Habitat Directive (92/43/EEC) is divided into two main chapters. The first one, which is entitled ‘Conservation of natural habitats and habitats of species’, addresses the conservation of the network of sites known as Natura 2000. The second chapter is entitled ‘Protection of species’. The first chapter in Article 6 is the most important one in the directive that determines the relationship between conservation and land use. In this article provisions are also set out which govern the conservation and management of Natura 2000 sites. The Habitat Directive 92/43/EEC has a close relation to the Birds Directive 79/409/EEC. The schemes are broadly comparable between the two and to a large degree the schemes of both directives have been merged and fusioned.18

To give effect to the provisions of Article 6 it is important to require it to be the subject of provisions of national law. To make this happen, Article 23 states that “Member States shall

bring into force the laws, regulations and administrative provisions necessary to comply with this directive within two years of its notification”19. The deadline for Sweden, Austria and Finland was 1 January 1995, and for the other Member States 10 June 1994. The type of Community instrument used was a directive. The directive is binding in the way that a result has to be achieved, but it leaves the Member States some choice when it comes to form and method to achieve the result. For most directives national legislation is needed to get the required result.20

5. How does Natura 2000 work on the EU level?

5.1 Regulations and control
Every sixth year each member state will send a report to the EU Commission explaining how the directive has been implemented and how the condition of the landscape and species that are listed in the directives annexes, has developed. Sweden’s first report was submitted in 2001. If the report on how the two directives have been implemented are not satisfying to the EU Commission this is pointed out to the member state in question. If the matter does not improve the commission has the choice to take it to the EC Court. Several countries have been convicted for not implementing the regulation on the Birds Directive correctly.21

Every Natura 2000 area should have a conservation plan that explains the rules for the particular area. It describes in detail the values that are to be protected and the measures that are needed and when they are carried out. The purpose and goal of the protection is also to be described. The need for restoration is evaluated and the protection needed is mentioned as well as the necessary management. The plan is to explain the potential threats for the species and landscapes that are to be protected by the Natura 2000. The conservation plan holds important information when it comes to permitting different activities in the area. The county board has to present a plan by a procedure which includes the land owners and other stakeholders in the areas, as well as the municipality and local associations and organisations.22

The regulations in Natura 2000 are formulated thus that the authorities only in special cases can give permission even though it is predicted that the activities might damage the nature values of the area. This is only allowed if certain criteria are met; if there is no alternative to the action, if the measures are important for the society or if the nature values can be compensated. Important roads, railroads or measures for the defence are examples of development that can get a permit after this kind of investigation. The Government then needs to give their approval for the measures in the Natura 2000 area. The loss of nature values in the areas have to be compensated.23

5.2 Economy
There is no common EU system for measures and money for the land owners in a Natura 2000 area. The possibilities vary and are decided on what measures are needed to preserve the nature values. The economic support to a land owner in a Natura 2000 area can be given in different ways, as environment support for land owners to buy more land or as encroachment compensation in a nature reserve. Project owners in Natura 2000 areas can apply for funding through the structural funds. The land owners’ possibility to get funding for Natura 2000 areas

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is regulated by the protection legislation for the ongoing land use or to what actions the land owner commits himself of doing in the area. Encroachment compensation can be given to land owners if the Natura 2000 is limiting the ongoing land use under the circumstances that the land use is becoming considerably more difficult to maintain. The encroachment is evaluated and a negotiation is held before the final decision on the sum is made. Other kinds of funding can be made through agricultural environment compensation for restoring and preserving pasture lands and hay meadows. If environmental support cannot be given, the land owner can make management agreements with the County Board. In an investigation from 2002 the possible EU financing for Natura 2000 areas in the future is discussed, a discussion that is still going on.24

6. Natura 2000 in Sweden

6.1 Laws and regulations, who decides what?
Natura 2000 is rooted in the EU Habitat- and Birds Directive. In Sweden the two directives have been transposed through the Environmental Code provisions.

In Sweden all Natura 2000 areas are protected with the support of the Environmental Code and classed as a national interest. To be able to carry out any activity or make any measures in the area that can affect the environment in a Natura 2000 area a permit from the Environmental Code is needed.25

The EU member states are obliged to meet the provisions and requirements of the directives and implement it in their countries. According to the Birds and Habitat Directives the member states are to appoint special protected areas to birds and special preserved areas for other species and landscapes. These areas constitute the Network of Natura 2000.

Each member state is thereby responsible for taking the necessary actions in the Natura 2000 areas. The landscapes and species that constituted the base for the appointed areas in the network are to be kept in a favourable preservation status.26

6.2 How were the Natura 2000 sites selected in the beginning?

Every country is responsible for choosing national areas that are in line with the habitats and species listed in the Habitats and Birds Directives. The size of the areas should be in proportion to how much of the habitat or species the certain county has and to how large the area has to be in order to preserve it and the species living there in the future. The areas supported by the Birds Directive should be the most suited ones. Wetlands are in many ways an international interest due to the fact that they are important for many moving birds. That makes them especially important to care for.27

When implementing Natura 2000 in Sweden the Ministry of Environment did a survey called “Implementation of the Habitat Directive and Birds Directive, Ds 2000:29”.28 Besides that survey no other surveys were done. In an interview Lars Påhlsson former Environment Director at the County Board in Skåne County argued that there were discussions about Natura 2000 becoming a basic model for land use in all landscapes.29

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28 Authors translation, “Genomförande av art- och habitatdirektivet och fågeldirektivet, Ds 2000:29.”
29 Påhlsson, L, Mail interview, 090426.
6.3 How did Sweden cope with Natura 2000 in the start?

When Sweden entered the EU January 1\textsuperscript{st} 1995 it meant a fast start for the Natura 2000 process. One of the difficulties with the Natura 2000 work was that the landscapes in the directives were poorly explained. The annex only contained the names of the landscapes but did not present any explanations or descriptions about the nature in them.\textsuperscript{30}

According to Eva Stighäll at the Swedish Environmental Protection Agency in the beginning it was hard to predict how the Natura 2000 development would affect the policies of nature conservation. The real breakthrough in understanding the strength of Natura 2000 came in 2001 when the Environmental Code was changed. That was when the majority of the people working with Natura 2000 issues started to understand the possibilities and also the advantages of the Natura 2000 protection.\textsuperscript{31}

When the EU Commission validated the Swedish list of suggested Natura 2000 sites all forms of measures necessary to preserve landscapes and species were to be made. The measures can be through legislation, agreements or through appropriate management and administrative plans.

The Government assigned to the Swedish Environmental Protection Agency to suggest appropriate Natura 2000 areas with the county boards as co-operators. The areas suggested should primarily be those that were already in the Swedish Environmental Protection Agency preservation plans and should also fit in the frames of the Environmental Protection Agency budget.

The process of contacting landowners and different authorities was a time consuming and resource-intensive work which resulted in that only a few areas were dealt with. Another difficulty in the initial work with Natura 2000 was the lack of information about the occurrence and spreading of the Habitat Directives landscapes and species. In order to cope with this lack of information some complementing inventories were made, but far from all concerned landscapes and species became mapped.\textsuperscript{32}

In the beginning of 1995 Sweden tried to get the timeframe extended with three years to manage to get the Natura 2000 area proposals ready. The EU Commission refused the request and made clear that Sweden should deliver proposals at the end of December 1995. The work at the county boards was intense and with several complications, such as lack of time, difficulties in interpreting the directives and lack of information for many of the concerned landscapes. In the end of 1995 the Swedish Environmental Protection Agency got 2,817 proposals for Natura 2000 areas from the county boards. Of these 1,273 were based on enough facts to be presented on a national level. In a governmental decision to the EU Commission it was decided that 563 areas where to be part of the Natura 2000 network according to the Habitat Directive. All of these areas where already protected through the


\textsuperscript{31} Stighäll, E, Naturvårdsverket, Mail interview, 090330.

Swedish Environmental Code. The reason for this was that the short timeframe had made it impossible to treat unprotected areas based on talks with the concerned landowners and authorities. Sweden was not the only country struggling with the timeframe. At the time of handing in the proposals it stood clear that most member states had failed to deliver them during this first part of the Natura 2000 process.33

Already in the beginning Sweden remarked that Nordic species and landscapes were poorly represented in the Habitat Directive. Sweden and Finland were allowed to complete the list on the conditions that the species and landscapes were not to be found in other EU member states. The reason for this was that several member states were far ahead with implementing Natura 2000 and were not interested in starting over the expensive process with new guidelines.

According to the directives Sweden is divided into three different biogeographical regions;

- The continental region which is represented in the south of Sweden and southern coastal areas
- The boreal region which includes the larger part of Sweden
- The alpine region which includes the mountain areas

The regions are important for the Natura 2000 network with respect to the fact that the purpose is to keep a favourable position for landscapes and species in all different regions where they are naturally occurring. The reason for this is that all regional differences should also be represented in Natura 2000.

Sweden brought forward the Fennoscandic landscapes and species to the directives which from the point of view of the nature preservation would give better options of areas. Many already existing national parks, nature reserves, nature conservation areas and wildlife sanctuaries where put into the Natura 2000 project to make the network more complete.

It was said that a well-structured and well worked-out Swedish contribution to Natura 2000 would give Sweden stronger influence on nature issues in the EU.34

6.4 How are the Natura 2000 sites selected today?
In Sweden the Natura 2000 areas are selected by county boards in the different counties after consultations with land owners and concerned authorities. Before the Government then makes a decision about the selected areas it is checked by the National Environmental Protection Agency. When the areas are checked the Government proposes to the EU Commission which

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Figure 1. The biogeographical regions and Natura 2000 sites in EU 2005. Reference: http://dataservice.eea.europa.eu/atlas/viewdata/viewpub.asp?id=2250
areas that should be parts of the Natura 2000 network. The Commission checks the selection scientifically and produces a biogeographic list over the areas. The areas under the Birds Directive do not have to go through this procedure. Sweden is one of many countries that have been criticised for not presenting enough areas for certain landscapes and species.  

**6.5 How are the Natura 2000 sites managed?**

To make changes or measures that could affect the environment in a significant way in a Natura 2000 area, a permit is needed from the County Board. The permit is usually granted if the protected environment is not being damaged and if the conservation of the species that are protected is not being threatened or hampered. The application for permit is made by the individual who wants to do the changes. The application should contain an environmental impact assessment with a judgment of the consequences of the action in the Natura 2000 area but also suggestions of possible protection measures. In most cases the application concerning water activities are taken up by the County Board or the Environmental court. The whole thing is started off by consultation with the County Board to decide what the application and environmental assessment should contain. Most measures related to the nature management in a Natura 2000 area do not need a permit.

The rules for Natura 2000 areas are very strict and the security for the areas is not allowed to be influenced or changed by the appointed administrators own interests of a certain area. Kristian Nilsson on the environmental section of the county board in Skåne argues that personal interests should not and are not presented. If personal interests should be represented in an Environmental Impact Assessment (EIA) the county board can ask the concerned person for complementary information. If the county board staff in the judgement of an EIA let their own interests in an area motivate their application it would be partial. The decisions should only be motivated by the facts and the circumstances in each individual case. Normally a case is handled by two administrators in the County Board, one who makes the assessment of the area and plan, and one who takes the decision.

The EU member states have to determine the conservation measures in relation to the ecological requirements of the natural habitat types and the species. The directive itself does not contain any definition of the ecological requirements, but Article 6.1 in the Habitat Directive indicates that all of the ecological needs are included to ensure the favourable conservation status and the habitats and species relation to the environment. The requirements rest on scientific knowledge and can only be defined in a case-by-case basis. The ecological requirements of the natural habitat types and species present on the sites are identified by the member states that can exchange their knowledge with the support of the European

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37 Nilsson, K, Länsstyrelsen Skåne, Mail interview, 090423.

Since the implementation of Natura 2000 Sweden has learnt to deal with preservation in and outside the Natura 2000 network through preservation plans. The plans today are well done and are carefully documented which makes them easier to follow up. If the plans are updated regularly, Kristian Nilsson thinks that the preservation plans will remain a tool in the future of managing Natura 2000 areas.40


40 Nilsson, K, Mail interview, 090423.
7. Other instruments of nature protection and conservation in Sweden

7.1 National park
National parks are our nature heritage to be saved for us and for our future generations. All the land in national parks is owned by the State. Sweden hosts 28 national parks that cover most of the different landscape types represented in the country. The purpose of a National park is to keep a larger cohesive area of a certain landscape in its natural condition. The landscapes are not just to be kept for the future, they are also to be of great natural beauty or unique to give lasting nature experiences. Most of the national parks have hiking tracks and information boards to facilitate for the public to enjoy the nature. The Environmental Protection agency proposes new areas through the National Park Plan from a protection value, size, representative ability, biological diversity, and how untouched the nature is.41

7.2 Nature reserve
The number of nature reserves is still rising and constitutes the largest proportion of protected nature in Sweden. When a nature reserve is formed the boarders are marked with poles. There is also an information board with a map that describe the nature of the area. Both county boards and municipalities can designate a nature reserve. Nature reserves do not only include land areas. There are also a number of marine nature reserves that were brought forward as a way to protect cohesive areas in the sea or in our lakes. Every nature reserve is unique and holds its own set of regulations to preserve the nature. The purpose of the nature reserve determines which rules it holds.42

7.3 National interest
One third of Sweden’s surface has been assessed as being of national interest for nature conservation and outdoor activities. This means that the areas have a limited protection against actions that may damage the natural or cultural environments. Different social sectors can point out important areas as national interest and thus give them a protection against damaging actions. Some areas are protected for the nature conservation and shall represent the main features of the Swedish nature and together make up the most precious areas in a national perspective. Other areas have become national interests for outdoor activities. In 30 per cent of the cases the two motives for national interest intersect with each other.43 These national interests for outdoor activities are often laid out freely which make the areas problematic for the municipalities to interpret. A national interest is a way for the Government to tell the municipalities to take considerations in their spatial planning. In the municipalities’ handling of national interests many misunderstandings occur along the way to the

Government. One of them is the apprehension that national interests decided by the Government would be restrictions for the local levels.\textsuperscript{44}

According to the Environmental Code, areas of national interest for nature conservation, preservation of the cultural heritage and outdoor activities are protected against actions that might have a major impact on the environment. The regulations do only have a direct impact when the land use is affected. The regulation does not prevent development in areas of national interest if no other alternatives are available. In the cases where none of the general regulations provides an area with enough protection it can be made into a nature reserve.\textsuperscript{45}

\section*{7.4 Biosphere reserve}

Biosphere reserves are model areas where new knowledge and practice on how the relations between people and nature are tested in a sustainable way. The biosphere reserves are suggesting new ways to interact between nature conservation and sustainable development. People are able to live and develop in the areas at the same time as the nature is being preserved. The biosphere reserves are a part of UNESCOs’ scientific program “Man and the Biosphere” which aims to improve the relation between human beings and environment globally. In Sweden, the biosphere reserves constitute a complement to culture and nature reserves and national parks. The appointed biosphere reserves do not have a legal protection.\textsuperscript{46} A biosphere area has three main functions. It should contribute to preserving the biodiversity, promote economic development and social changes that are both ecologically and socially sustainable and it should support and facilitate research, education and practice. A biosphere reserve is made up of zones: the core area, the buffer zone and the transition area. The core area is protected by law as a nature or culture reserve, a Natura 2000 area or as a national park. The buffer zone may be either connected to or surrounding the core area. The zone may only be open for actions that go with the regulations of the core area. In the transition area sustainable development is prioritised in the long run and is therefore important for the economic and social development locally and regionally.\textsuperscript{47}

\section*{7.5 Shore protection}

Through the shore protection all people are able to enjoy the beaches along the coastline, lakes and watercourses. It also protects animals and plants that live on or close to the beaches.\textsuperscript{48} The shore protection came as a solution to prevent overexploitation of the beaches and to preserve the general public’s access to beaches and water. From the beginning this regulation had just social motives. It was not until 1975 that a general protection was introduced with the purpose to secure the right of the public to outdoor activities along the coasts.\textsuperscript{49} Since 1994 the law also protects the beaches for their large importance for

\begin{thebibliography}{99}
\bibitem{47} UNESCO, \textit{Biosphere reserves: Special places for people and nature}, 2002, p 17.
\end{thebibliography}
biodiversity. The protection generally covers 100 meters from the shoreline inland and outwards into the water. Therefore the protection is valid both on land and in water. In areas that are especially sensitive or close to buildings with few beach locations the county board can enlarge the beach protection up to 300 meters. In detail development plan areas where there are special reasons the shore protection can be repealed. For changing land use in shore protected areas, such as erecting new buildings, exemption has to be made. This is only made if special reasons can be presented.

The Swedish Environmental Code sets the regulations; they look the same all over the country whatever the nature around. 50

7.6 Biotope protection
Biotope protection is used to protect smaller habitats for nationally endangered species and small protection worthy landscapes in forestry or agricultural landscapes. The landowner is compensated for any loss of economic income due to the protection.51

7.7 Wildlife sanctuary
To protect nesting birds or seal colonies it is possible to prohibit access to an area during some period of the year. Most of these areas are located along coasts or lakes to protect seabirds or seals.52

7.8 Nature conservation agreement
A nature conservation agreement is made between the State or a municipality and the landowner with the purpose to preserve and develop the nature values of an area. It is to be seen as a complement to other protection instruments and should not be assigned to areas that are protected by law. Most of the areas in question are in need of conservation-adapted management. The State, the counties and the municipalities can all set up a nature conservation agreement for an area. The Environmental Protection agency provides guidelines when working with nature conservation agreements. The use of nature conservation agreements are flexible with respect to which areas the agreement is signed on, the content of the agreement and the time-length of the agreement.53

7.9 Voluntary designation
The forest industry in Sweden have decided to protect 500 000 hectares from the production without any economic compensation from the State or municipalities. The land is included in the parliamentary resolutions on the amount of land to be protected by 2010. This contribution is necessary for meeting the environmental goal on “Living Forests”.


Wooded pastures and natural meadows are some of the most biodiverse landscapes in Sweden. However, modern agricultural techniques have reduced the number drastically. To preserve these landscapes the EU agricultural program provides environmental funding to the landowners who commit themselves to keep the land for grazing or hay-making all in order to preserve nature- or culture-values.\footnote{Naturvårdsverket, Andra sätt att skydda natur, http://www.naturvardsverket.se/sv/Arbete-med-naturvard/Detta-ar-naturvard/Nationalparken-och-andra-satt-att-skydda-natur/Andra-satt-att-skydda-natur/, 090228.}

\section*{7.10 Nature conservation area}
Before the Environmental Code came into force, the State, the Counties or the municipality could decide on nature conservation areas with the support of the Nature conservation act. The status of the protection was weaker than the nature reserve and had no impact on the ongoing land use. Since the Environmental Code came into force it is no longer possible to create new nature conservation areas but the already existing ones are to be kept and looked upon as nature reserves.\footnote{Naturvårdsverket, Andra sätt att skydda natur, http://www.naturvardsverket.se/sv/Arbete-med-naturvard/Detta-ar-naturvard/Nationalparken-och-andra-satt-att-skydda-natur/Andra-satt-att-skydda-natur/, 090228.}

\section*{7.11 Natural heritage}
Natural heritage can be single objects such as erratic boulders, giant potholes or old and large trees. Other typical examples are small areas with interesting nature features. The county board decides if an object or area should become a natural heritage. The protection formula was introduced in 1909 and a large amount of the existing natural heritage was established before the Nature Conservation Act came into force in 1964.\footnote{Naturvårdsverket, Andra sätt att skydda natur, http://www.naturvardsverket.se/sv/Arbete-med-naturvard/Detta-ar-naturvard/Nationalparken-och-andra-satt-att-skydda-natur/Andra-satt-att-skydda-natur/, 090228.}

\section*{7.12 Landscape protection}
The landscape protection is an old kind of protection and it is not mentioned in the Environmental Code. It is being gradually replaced by other protection instruments, but meanwhile the old regulations are still valid. For every landscape protection there are specially developed regulations that are administered by the County Board. The protection regulates the locations of settlement, roads and plants which may have a negative impact on the landscape. It does not regulate forestry or agricultural use.\footnote{Naturvårdsverket, Andra sätt att skydda natur, http://www.naturvardsverket.se/sv/Arbete-med-naturvard/Detta-ar-naturvard/Nationalparken-och-andra-satt-att-skydda-natur/Andra-satt-att-skydda-natur/, 090228.}

\section*{7.13 Natura 2000 compared to other protected areas: similarities and differences}
In the perspective of power over the landscape there are four major points that separate Natura 2000 from other sorts of landscape protection.

\subsection*{7.13.1 The level on which the decisions are made}
The most obvious differences between Natura 2000 and other nature protection formulas are on which level they are governed. Natura 2000 regulation is dealt with at the EU level, whereas the other protection formulas are usually regulated at a local, regional or national level.
level. Some of the protection formulas can also be results of different international projects involving countries all over the world. Whether a decision taken at the EU level yields a better result is a question with many different answers depending on the perspective.

Natura 2000 is the first European cooperation to preserve all landscapes represented in Europe, and is unique in that way. Natura 2000 is regulated by the Birds Directive and the Habitat Directive, together serving the purpose of preserving and protecting birds and other species as well as their habitats throughout all the EU member states. The final decision on Natura 2000 areas is made by the EU Commission, whereas in Sweden the Environmental Protection Agency, the county boards or municipalities are responsible for the final decisions. In many ways this is complicated in itself. Thus, the municipalities, for example, have to interpret national interests and predict what impact these interests might have on land use planning in the area and present it to the national level. The same problem arises when it comes to Natura 2000. A prediction on how the area is going to be affected is to be performed by the municipalities. The interpretation might not always be the same at the national level. In the case of shore protection an evaluation is to be made, where the power over the protection is shifted over to a national expertise to make the judgement on how the protection will work. The Natura 2000 network is a perfect example of top-down decision-making where the authorities have to follow guidelines and regulations from a higher level. In implementing Natura 2000 local authorities are responsible for making it happen in the best possible way. The EU Commission is there to supervise and to give their opinion on what ought to be done.

7.13.2 An Environmental Impact Assessment needs to be made in Natura 2000 areas
If there is a risk of significant impact on a Natura 2000 area an EIA should always be made, compiling information that is required for examination in accordance with chapter 7 §28a and §29. When the EIA is done the whole chapter 6 should be applicable in the permission process. The problems with this examining is that in chapter 6 §7 it is mentioned that activities or measures that could be assumed to influence the environment shall always contain the information that is required according to chapter 7 §28a and §29. However, in chapter 7 §28a it is mentioned that a significant impact on the environment in a specific area is required. This creates confusion in what cases it is necessary with an EIA. The EIA should be established when there is a significant impact on the environment because of the permission obligation.

The EIA will be the basis for an application of permission. Responsible for the establishment of the EIA is the projector. After being produced the EIA will be validated by the County Board. If a Natura 2000 area is located in the vicinity of the planned area and if the project will not have any significant consequences in the area or on species living there it is important that the EIA presents the basis for that application.

58 Authors translation, “kan antas påverka miljön”.
59 Authors translation, “betydande påverkan på miljön i ett förtecknat område”.
60 Naturvårdsverket, Natura 2000 i Sverige, Handbok med allmänna råd, 2003, p 47.
61 Naturvårdsverket, Natura 2000 i Sverige, Handbok med allmänna råd, 2003, p 76.
7.13.3 Natura 2000 may often have consequences that are hard to predict
When the municipalities try to evaluate the impact of a Natura 2000 area the power is in favour of the environmental authority and the spatial planners are forced to take a step back. The differences between national interests and Natura 2000 in this view are relatively small. However, it can be more difficult to predict how the environment will be affected compared with the considerations of a National interest. It depends on the fact that the initiative for a Natura 2000 area does not come from the municipality and that the considerations for National interests are to be part of the municipality overview plan.

7.13.4 Actions in Natura 2000 areas have to be compensated
To make a significant change in a Natura 2000 area all other reasonable options must first be analysed and ruled out. If an encroachment is approved in a Natura 2000 area the nature disturbed have to be compensated for. This is usually not the case for other nature protection forms where the damages are calculated and the decision is based on how severe and necessary the encroachment is.

Figure 3. Differences between Natura 2000 areas and other nature preservation areas in Sweden.
8. Conflicts between Natura 2000 and spatial planning

8.1 The problems after implementing Natura 2000 in Sweden

The implementation of Natura 2000 can be seen as an important step forward from the environmentalist management point of view. The protection makes it possible not only to prevent or modify encroachments placed inside a Natura 2000 area but also outside the protected area. This protection works as a functional ecological protection and not from a strict geographical perspective. Matters concerning Natura 2000 areas gains its high status because the cases are handled on the national and EU-levels. To prevent conflicts between the environmentalist management and spatial planning most municipalities have a master plan\textsuperscript{63}, where considerations are taken to the environment.\textsuperscript{64}

Sweden’s problems with some of the Natura 2000 areas are that the investigations, which lead to a higher status, were not satisfying in all the potential Natura 2000 areas. The simple fact is that it is hard to motivate the highest protection status for all of today’s Natura 2000 areas. The main reason for the non-satisfying result was a too speedy process pointing out the areas to be included in the Natura 2000 network as well as the lack of mode of procedure. This resulted in other interests in the landscape and decision makers at lower levels being steamrollered. The protections strength can also through this problem risk unnecessary obstruction to necessary nature protection because of inadequate basic facts. The environmentalist management see and interpret that the bans against damage in the areas give veto in relations to other encroachment interests, such as spatial planning. The scope for other interests in the landscape is therefore limited. The power is in the hands of the people who have the knowledge and are responsible for decision making.\textsuperscript{65}

The shift of power that takes place between the environmental paradigm and the planning paradigm when implementing the Natura 2000 can be illustrated with a function that combines two dimensions: central - local and calculating - communicative.

\textsuperscript{63} Översikts plan
\textsuperscript{64} Påhlsson, L, Mail intwerview, 090427.
\textsuperscript{65} Emmelin, L & Lerman, P, \textit{Styrning av markanvändning och miljö}, 2006, p 47.
Figure 4. The contrast between Environmentalist management and spatial planning. The power over the landscape has been pushed towards a more calculating and central decision making. Reference: Emmelin, L, “Planning for sustainability” – a contribution to the Advisory Board discussion, April 16, 2009, Karlskrona. 2009, p6.

The horizontal calculating-communicative scale describes the basis for legitimate decisions. A decision according to the environmental paradigm is right if it is based on rational processes done in a scientific way, which means that the result shall be able to be quantified. On the other side of the scale the planning paradigm, the basis of which is that “changes in land use and natural resources management should rest on the weighting or balancing of legitimate but not necessarily compatible interests.” The vertical central–local scale describes when a decision should be made on a basis from a central or a local perspective. The core issue is by whom and from which perspective the best decision can be made. Decision making on a local level contains more aspects in form of vested interests and economics, whereas central decision making contains less of these aspects and from that point of view more correct and directive following.

In Sweden there are about 4,000 areas covering six million hectares that are protected by Natura 2000. The Government has two main responsibilities for the areas: the qualities of the area and the human activity allowed in the areas and surroundings. The human activity is managed through investigations and examinations combined with bans and requirements on compensation. The member states’ economic potential to handle Natura 2000 areas in the beginning of the identifying process shall not be considered or discussed.

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69 Påhlsson, L, Mail interview, 090427.
8.2 Environmental governance

Basically, management of the environment in Sweden can be divided in two principal elements, environmental management and spatial planning with their respective sets of legislation, the Environmental Code and the Planning and Building Act. This circumstance is also a reason for competition between the two. Both legislations rest upon theoretically constructed paradigms based on professional culture and environmental management.71

![Figure 5. The different views for the Environmentalist paradigm and the Planning paradigm.](image)

The two different paradigms are part of the understanding and perception of environmental assessment that influence the implementation of directives and national legislation. One of the more important views that make a difference between the two paradigms has to do with the sustainable development. The planning paradigm regards sustainability as balancing between three elements: ecological, economical and social in a never-ending process. The environmentalist paradigm sees it as a state that can be scientifically determined.72

The planning paradigm in its extreme form leads to a strong belief in the “power” of planning to shape not only the physical environment but also to fill it with social and economic content. From this view sustainability appraisal is seen as possible and meaningful because planning is attributed with the power to determine development. Planning is depicted as proactive while impact assessments, permit processes and monitoring are seen as reactive. This disregards the fact that the State in many cases is not the main actor of change. In Sweden the municipalities have a monopoly on spatial planning, which means that issues within this field are mainly restricted to the local level, and as a consequence steering from regional and central level is limited.

The environmentalist paradigm, based on preservation looks upon environmental problems as threats. Until recently this paradigm was without any goals for environmental governance which could easily lead to a general position of opposition to all forms of change. This attitude becomes clear on local level, often resulting in the NIMBY-effect (“not in my backyard”). The EIA becomes a tool for opposing change rather than for governing change. To build decisions on expertise and sound scientific evidence creates a top down perspective. Quite few experts are responsible for these issues.73

8.3 The Environmental Code chapter 7 § 28

The kind of projects that are planned within Natura 2000 areas need to be controlled and examined by the Swedish Environmental Code regulations. This kind of investigation is in some cases called “appropriate assessment”. Shortly the legislation demands three things to approve interference in Natura 2000-areas.

According to §29, permits can be given, overruling the legislation in §28b and §28a, if:

- Lack of alternative solutions.
- The activity or measures must be implemented by forced reasons that have a significant public interest and
- The measures that are needed to compensate the loss of environmental values correspond in a way that the protection of the concerned area is met.74

Decision with respect to the first paragraph can only be made by the Government.75

8.3.1 The process that is required according to the Environmental Code chapter 7 §28 if there is a predicted impact on a Natura 2000 area (Infrastructure project)

1. Preliminary study.

An assessment of possible impacts on a Natura 2000 area is done. The different alternatives are presented. The preliminary study can also show if the project/plan not is viable.

2. Early consultation.

Consultation with the county board, municipality, non-profit associations and the concerned public. The County Board brings up the alternative solutions and formulations of the project/plan and is also obliged to document their thoughts and conclusions.

3. Decision about significant environmental impact.

To get all the aspects on a Natura 2000 case and an effective planning process it is important that the consultation meet the requirements on “Early consultation Natura 2000 case”.

74 Authors translation.
75 The Swedish Environmental Code, Chapter 7 §29.
4. Increased consultation.

If the County Board assess the project/plan to have a significant impact on a Natura 2000 area an increased consultation with concerned authorities, municipalities, public and non-profit associations is made. The objective of consultation is to examine the projects/plans localisation, scope and predicted impact on the environment.

5. Establishment of an EIA.

If the project/plan is predicted to have an impact on a Natura 2000 area it is required to make an EIA. The person responsible for the project/plan is obliged to make the EIA that shall be approved by the County Board. The EIA should contain information needed to examine the project/plan according to the Environmental Code chapter 7 §28a and 29.76

6. Possible permission examination according to 17th chapter in the Environmental Code.

The Swedish Government examines roads, highways and other roads that have at least four lanes and a length of at least ten kilometres. The Government can also examine matters in special cases, according to the Environmental Code chapter 17 §1. The special cases can be comprised even if the activity is not covered in chapter 17 §1. For example, this could be an activity outside a Natura 2000 area that is predicted to have more than an insignificant impact on the natural values in the protected area. An authority or municipality board that becomes aware of activities outside a Natura 2000 area affecting the area negatively shall inform the Government.

The county board decides, in contact with the Government, the need for examination. In accordance with the Environmental Code chapter 7 §28a the case shall after the Government’s approval be handed over to the county board for approval. The Government can, under certain circumstances, examine the permission in accordance with chapter 7 §29 and if permission cannot be given in accordance with chapter 7 §28a. The applier can apply for one of the alternatives. After that a second alternative could be examined if the first one is rejected. The application shall contain the consequences for the Natura 2000 area. In the referral the County Board shall be given possibility to make a special statement about the Natura 2000 matter. This is because the knowledge and responsibility for Natura 2000 rests with this board.77

7. Establish working plan, establish EIA, establish construction document

In the working plan the scope and range of the projects/plans are studied in a more detailed way as well as how appropriate methods are with considerations to geology, water issues, nature and cultural values, and other matters. The possibility to avoid and prevent negative consequences is being treated at this stage. The EIA shall treat what adaptation and measures that could bring damage to the Natura 2000 area. The EIA is a survey made up for the species and habitats that the protection covers. A survey is also made over what impacts the

project/plan could have on the species and habitats of the area. The County Board makes
decision about the EIA and are responsible at this stage for the EIA to follow the
Environmental Code. The decision should contain a justification of the results and the
documents’ quality.\textsuperscript{78}

8. Permit examination chapter 7 §28

The permit examination should be noticed early in the process. There is no need for applying
for permit concerning deliberate land use according to chapter 7 §28a in the Environmental
Code. However, on the other hand chapter 4 §8 means that a working plan cannot be
established without a condition state following the chapter 7 §28a. The application of chapter
4 §8 is thus a restriction for moving on in the process if permit according to chapter 7 §28a is
not given. If the examination is required in order to examine the impact on a Natura 2000
protected area this step should be done before the case is passed to the Government. When the
Natura 2000 case is requires a permission from the Government they should firstly examine
the case to chapter 17 and chapter 7 §29 in the Environmental Code.\textsuperscript{79}

8.4 Procedures for plans and projects in Natura 2000 areas
The following three measures have a leading part in the decision concerning when it is
legitimate to encroach upon a Natura 2000 area. The goals of Natura 2000 can be jeopardized
by different plans and projects, such as new roads. Therefore, the regulation of the Habitat
Directive prescribes an Environmental Impact Assessment, as mentioned above, on how plans
and projects might affect Natura 2000 areas.

8.4.1 Compensation actions
The main conclusion with the compensation action is that the Natura 2000 network should
remain complete through actions that minimize negative impacts that could appear in different
projects. This is also adopted and supported in the Swedish Environmental Code. The
compensation actions should be considered as the last option to keep the network intact.
Before the compensation action is taken the project should deal with and/or eliminate negative
consequences and have considered other possible options. The measures in the sense of scope,
quality and function need to correspond, at a minimum, to the same natural values that the
project will have a negative impact on. The compensation action is recommended to be done
before the encroachment on a Natura 2000 area. Compensation should in the first place be
made in direct adjacency of the already existing Natura 2000 area. If this is not possible the
compensation can be done in an area directly connected to the affected one. A new area could
be used if there is no other alternative, but with the criteria that the area should be in the same
biogeographical region and that the “new” area should not have been a Natura 2000 area from
the beginning. Theoretically this means that the compensation could be done anywhere, even
in another country, as long it is done in the same biogeographical region.\textsuperscript{80} In another source

\textsuperscript{78} Naturvårdsverket, \textit{Natura 2000 i Sverige, Handbok med allmänna råd}, 2003, p 78.
\textsuperscript{79} Naturvårdsverket, \textit{Natura 2000 i Sverige, Handbok med allmänna råd}, 2003, p 79.
\textsuperscript{80} European Commission, \textit{Skötsel och förvaltning av Natura 2000 område Artikel 6 i ort- och habitatdirektivet 92/43/EEG,}
http://www.banverket.se/pages/10634/kompensationsplan%202005/sid.30-32_Riktlinjer_for_val_av_kompensationsatgarder_2005%5B1%5D.pdf, 090218. p 30ff
we found that the compensation should take place in the very same member state.\textsuperscript{81} The compensation action is only current in connection with permission examination of the Government.\textsuperscript{82} The reviewing authority will decide about the compensation. The applicant is obligated to fund the measures if there is no big public interest. With a significant public interest the finance could be divided between the different public interests. Finally the licensing authority will inform the EU Commission about the measures that have been introduced.\textsuperscript{83}

8.4.2 Other alternatives
To prevent trespasses in Natura 2000 a thorough investigation over other possible alternatives should always be performed and a status quo alternative should also be considered. This should especially be done in prioritized areas, according to the Habitat Directive, and in areas that, according to the Birds Directive, contain birds that are globally threatened with extinction. The concerned authorities need firstly to analyze the need of the plan/project and show that there is a demand or need for the action. It is in this phase a “status quo” alternative should be considered. Secondly, the authorities should investigate the possibilities to use another alternative solution that does not have any impact at all or a minor impact on the protected area. Every viable alternative should be analyzed, especially their impact on the conserving objectives for Natura 2000 areas. Alternative solutions should already be identified in the introductory assessment, in accordance with to article 6.3. It can be constituted with different locations, scopes or processes. According to the subsidiary principle it is up to the national authorities to assess the impact that the alternative solutions will have on the area. References for this assessment should consist of aspects that concern the area’s ecological functions and the preservation as a whole. Those aspects cannot, in this stage, be outweiged by others, for example economical aspects.\textsuperscript{84}

8.4.3 Public interest
The public interest is one of the three main criteria that need to be fulfilled for encroachments in a Natura 2000 area. This criterion could be used as an argument if other alternative are not capable to fulfil the purpose or meaning that is fundamental for the project/plan. Forced reasons could be approved for both public and private interests. The public or private interest can be compared with the preservation objects of the directives. The service that the project/plan provides for the different interests should be in a businesslike manner, which is most usual in projects/plans concerning infrastructure. The public interest for a project/plan needs to contain long-term benefits for society; otherwise it will not outweigh the long-term preservation interest that is protected in the directives.\textsuperscript{85} If the public interest is of the

\textsuperscript{81} Oxford Brookes University Impacts Assessment Unit, \textit{Metodik för bedömning enligt art 6.3 – 6.4 i habitat direktivet.} p 39
\textsuperscript{82} Naturvårdsverket, \textit{Natura 2000 i Sverige, Handbok med allmänna råd}, 2003, p 64.
\textsuperscript{83} Naturvårdsverket, \textit{Natura 2000 i Sverige, Handbok med allmänna råd}, 2003, p 65.
overruling kind which could give permission to proceed with a project/plan, the commission must be heard.\textsuperscript{86}

\textsuperscript{86} Darpö, J, Natura 2000 i Sverige. Del I: Om rättstillämpningen i miljödomstolarna 2007-08 Nr1, p 7.
9. Case studies: how were the cases handled from a Natura 2000 point of view?

9.1 Botniabanan

Botniabanan is a railroad of 185 kilometres with 143 bridges and 25 kilometres of tunnels that is planned along the coast in northern Sweden. This is the first big infrastructure that is investigated where the Natura 2000 provisions shall be interpreted. The railroad is projected to run between Nyland, Kramfors municipality and Umeå. The building process started in 1999 and due to several delays the railroad will not be finished until August 2010. The total costs for the railroad is now estimated to 13 billion Swedish crowns. The project was proposed by the Swedish railroad administration to support and improve the transports in the Northern Sweden and to promote a sustainable development.88

![Figure 6. High speed train on Botniabanan. Reference: www.banverket.se](image)

9.1.1 Public interest

The purpose as well as the public interest lies in the consequences of the project on regional enlargement, business development, strengthened conditions for interacting settlement development and transport development, good environment and sustainable development, and shorter travelling time between Umeå and Stockholm. The project provides a more environmental friendly alternative for transport and trade. The railroad will also connect the sparsely populated areas with the larger cities in the region.89

9.1.2 Impact

The railroad will affect at least two Natura 2000 areas. One of these discussed areas is the Ume river delta (Umeålvens delta)90 which is protected by the Birds Directive. It is an important place for migratory birds in the northern parts of Sweden. The area is also protected by the Habitat Directive because of two habitat types, prioritised by the EU,. The Natural forests of primary succession stages of land-uplift coast will be affected with significant

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87 March 2009.
90 A river delta outside the city of Umeå.
damage by the railroad.91 But according to the approved EIA the affect on the habitat protected area will not be of significant character.

9.1.3 Compensation
A compensation plan is necessary for these kinds of encroachments in compliance with the Environmental Code, which has adopted regulations from the Natura 2000. To compensate for the estimated damages of the project the Swedish Rail Administration has created a restoration plan that is based on the already existing Natura 2000 sites. The compensation actions are made with big margins. The reason for these big margins is that the compensation action contains several different measures besides Natura 2000 that require attention, such as nature preservation, nature conservation and restoration of valuable nature. The total area which will be compensated is 350 hectares. Most of it will be protected as nature reserve and every area will be included in the Natura 2000 network.92

9.1.4 Other alternatives
At the beginning there were four different alternatives for the railroad concerning different areas and all interfering with two of the Natura 2000 areas in the region, Torsmyran and Öre river/älv. The two alternatives west of Umeå only affected these Natura 2000 areas and the two Eastern alternatives interfere, besides the two already mentioned areas, also with the Ume river/Umeälvens delta and Stor-Sandskär. The two western alternatives were excluded because of the fact that they would not fulfil the socioeconomic purpose or interest of the project. The travelling time gained with the eastern alternatives would be three minutes by high speed train and 15 seconds by regional train, which mostly depends on the location of the train station in Umeå that would be needed for the western alternatives and also for the east-west alternative. On the other hand travellers going to Umeå on the western alternatives would gain three minutes by high speed train and five minutes by regional train.93 Because of various reasons that have excluded the other alternatives only one of the four suggested alternatives was left, namely the eastern alternative.

9.1.5 The decision-making

The railroad plan has been up for discussion ever since the project was proposed in 1989. The focus for the discussion has been the economic aspects as well as the impact on the affected Natura 2000 areas. The public opinion in the concerned area has for a long time supported the project, but when the alternative that proposes the railroad to go through parts of Umeå city and through a bird directive protected area was laid out as an alternative, the supporters changed foot to be opponents. The public as well as Environmental Code experts claim that this alternative was never investigated in an appropriate way. It took three and a half years for the Swedish Government to decide about the last stage of the railroad between Nordmaling and Umeå because of the public complaints and because the EIA was far from satisfying. The result was that the Swedish Government proposed the alternative which intersects the bird directive protected area to the commission as the only alternative and which was financially viable.

The problem and the discussion in this matter is that the guiding document *Managing Natura 2000 Sites*, produced by the EU Commission, underlines that economic criteria never should overrule ecological criteria. The Swedish Government does not have the expertise or knowledge to decide which alternative is better than another and according to the Environmental Code it is not for the Government to make this decision. The Swedish Environmental Protection Agency which is entitled to make this decision followed the EU Commission’s statement.

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9.1.6 Statement from the European-commission

The 20th March 2002 Sweden submitted an official message to the European Commission asking for a statement concerning the railroad between Nordmaling and Umeå. The Commission answered the 24th April 2003, referring in their answer to article 6.4, which according to the Commission’s interpretation says that;

"according to article 6.4 in the Habitat Directive a plan or project can – if there is a lack of alternative solutions - be implemented by forced reasons that have a significant public interest, including reasons by social or economic matter, despite a negative result of an assessment of the consequences for a Natura 2000 protected area."

According to the Swedish railroad administration alternative East was the best one, at least from socioeconomic aspects. The other alternatives were not satisfying for the projects purpose and therefore excluded. The Swedish Rail Administration stated that the beneficial socioeconomic impacts are greater than the disturbance to the nature that the railroad is supposed to cause in alternative East. The Commission therefore agreed that the public interest and economic criteria had an advantage compared to the interest of the Natura 2000-areas. The statement was motivated thus: there are not any other viable alternative to the project, the project will have a positive leverage on the social and economic development in larger regions in Sweden and the suggested compensation measures are appropriate to protect the Natura 2000 network cohesion. The conditions for this statement were a comprehensive and realistic package of compensation measures. The Commission statement, which is only a recommendation, concerning the public interest for the project was that it should strengthen the regional competitiveness, clear regional imbalances and guarantee a good transportation quality. They also perceive the project as one of the most important investment in Swedish infrastructure, which is something the commission advocates for regional development. The project is of great importance for regional political interest and it creates better conditions for cooperation between cities and regions southwards. With a new railroad of this dignity there is a more environmentally friendly alternative for transports along the east coast of northern Sweden as well as it will facilitate for commuting workers.

The EU Commission recognizes the importance of the expansion of the socioeconomic development in the region and admits that the project has a forced reason to make a trespass into the Natura 2000-area.

9.2 Tre Toppar (Three Peaks), Idre

The Tre toppar (Three Peaks) project was suggested by the skiing company Idre Fjäll and presents new hotels, ski lifts and ski slopes which would connect two already existing ski plants, Idre Fjäll and Fjätervålen. The name Tre Toppar refers to the three mountain tops

Långfjället, Städjan and Nipfjället. The purpose of the project is to support, in a near future, the development of an operational labour market, services and wealth and to open up an attractive nature close to the sparsely populated areas of northwest Dalarna.\textsuperscript{101} Idre Fjäll suggested six alternatives for the project that would fulfil the purpose to a greater or less extent. Five of those alternatives included ski lifts in various ways and one describes ecotourism.\textsuperscript{102}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure8.jpg}
\caption{View over Tre Toppar. Reference: http://www.idre3toppar.se}
\end{figure}

\subsection*{9.2.1 Public interest}
The Foundation Idre Fjäll investigated the public interest and found that there was no other comparable project, without extensive society initiatives, that corresponded to the project Tre Toppar. The main purpose was to bring the needed development into the area. There were some other alternatives that had to to with eco-tourism, but they were not capable of creating as many new jobs which was the main argument for the project. The expansion would create 350 new jobs which could be seen as a direct effect of the project. The expansion would also have a big spin-off effect on public service.\textsuperscript{103} The projector saw the project as a way of improving the regional and sustainable development in a long-term way, which mostly would concern the local labour market.\textsuperscript{104}

\subsection*{9.2.2 Impact}
The large-scale landscape in the north of Dalarna has large forests, bare mountains and lots of mountain tops over 1,000 meters above sea level, which in many cases are protected by different legislative measures. Most of the planned area of project Tre Toppar is protected by the Natura-2000 legislation but it is also protected as nature reserve by Swedish regulations. The territory is highly dense with valuable nature. Most of Dalarna’s Natura 2000-areas are in the concerned territory. The total Natura 2000 regulated area in Idre, Särna and Härjedalen

\textsuperscript{101} Stiftelsen Idre Fjäll, Tre Toppar - samhällsintresse, hänsyn och konsekvenser, Miljökonsekvensbeskrivning \url{http://www.idre3toppar.se/koppladefiler/kap0_1_lag.pdf}, 090306, p 3.
\textsuperscript{103} Stiftelsen Idre Fjäll, Tre Toppar - samhällsintresse, hänsyn och konsekvenser, Miljökonsekvensbeskrivning \url{http://www.idre3toppar.se/koppladefiler/kap0_1_lag.pdf}, 090306, p 4.
\textsuperscript{104} Stiftelsen Idre Fjäll, Tre Toppar - samhällsintresse, hänsyn och konsekvenser, Miljökonsekvensbeskrivning \url{http://www.idre3toppar.se/koppladefiler/kap5_lag.pdf}, 090306. p 50, 53.
parishes amounts to 260,000 hectares. Of these, 70,000 hectares are western taiga and 80,000 hectares mountain moor. Besides those two types of landscapes the Natura 2000-area contains around ten additional identified landscapes. The western taiga has a particular conservation value from an EU perspective and this landscape is also the one which will be affected the most of all land by the project.105

9.2.3 Compensation
In the EIA for Tre Toppar there are three different packages of compensation measures that concern approximately 1,830 hectares of different landscapes. These compensation packages do not compensate all of the encroachment in the Natura 2000 areas.106 The reason is that these landscapes are common and therefore not considered that important. The compensation measures discuss that some of the affected Natura 2000 areas are going to be moved to areas that already are protected and to places which are not close to the existing Natura 2000 area.

9.2.4 Other alternatives
At the start there were six alternatives that were investigated and presented to the project. All of them contained new ski slopes and lifts except the status quo alternative. In the presentation and the EIA it is clear which alternative the projector prefers. The alternatives Städjan, Hemmeråsen, Söder and Foskdalsvallen were all excluded mainly for the same reasons, i.e. the alternatives would not produce the wanted skiing quality or the development of the labour market that the project was aiming for. The only alternative left that according to Idre Fjäll fulfilled the project purpose was was Tre Toppar.107

9.2.5 The decision making
The county board is not alone able to take a decision in this matter. Because of the Environmental Code they pass the case on to the Government with the following short statement: “From socioeconomic aspects the project is legitimate but the compensation actions are not satisfying.”. Even if the project/plan compensation actions cover a larger area than the one that will be affected, it is still not comparable with the existing natural values. Even if the compensation action was inadequate it was not on this point the project/plan failed.

The Swedish Government did not approve the project according to the Government decision of 8th of March 2007 by referring to the Environmental Code chapter 7 §29, which states that if other alternatives do not exist the project could be implemented by force.108 Referring to this paragraph, the Government states that there are other alternatives presented that would fulfil the purpose of the project without affecting the Natura 2000 area as much. The public interest, which the EIA presents as vital, is according to the Government put in the wrong context in this case. Public interest as Government states should concern public health, safety

107 Stiftelsen Idre Fjäll, Tre Toppar - samhällsintresse, hänsyn och konsekvenser, Miljökonsekvensbeskrivning http://www.idre3toppar.se/koppladefiler/kap0_1_lag.pdf, 090306, p 41ff.
and environment, not just benefit a single company. The project was missing important points that elucidate the problem in the countryside. Since the Swedish Government never approved the proposed project there were no reasons to pass the case on to the European Commission asking for a statement. \(^{109}\)

10. Discussion about the two cases

10.1 Botniabanan, the yes-project
The three important decision-makers - the Swedish Government, the Swedish Environmental Protection Agency and the European Commission - were in agreement. There are no other economically viable alternative and with a complemented compensation plan the project will be validated. Clearly none of them has looked in the guidance document concerning art. 6.4. The document says that when alternative solutions are investigated no economic aspects shall be taken under consideration.\(^\text{110}\) It can be assumed to be hard because of the projects purpose, which was to gain socioeconomic development. This is not the only interesting point in this case.

According to”Metodik för bedömning av art. 6.3-6.4 i habitatdirektivet”\(^\text{111}\), which is a text established on the expense of the European Commission that is not legally binding, if the decision makers also advocate the projector, no objective assessment can be made by the Commission. In the Botniabanan case the Swedish Rail Agency, an agency directly subordinate to the Swedish Government, had both the advocating and the examining role and they should not therefore be entitled to make an assessment of their own project. The risk when an authority both examines and advocates a project is that its vested interests get the upper hand and the assessment becomes biased. The European Commission contradicted itself and the Natura 2000 legislation through approving the project.

The significant public interest in the project that was presented by the Swedish Rail Administration declares that the projects will lead to enlargement of the region. 200,000 people are able to use the railroad regularly, which can be seen as a small number of people for a project of this dignity. Today 100,000 people work in the Örnsköldsvik and Umeå-region, of which 4 500 people are commuting to work. The Swedish Rail Administration also declared that the number of commuting people is going to rise. This sounds like a reasonable declaration, but the number of people living in the area is still limited.\(^\text{112}\) To know how the railroad is going to be used by commuters is hard to predict but the facts that we already have should be used to see the realistic possibilities.

It may seem careless by the Swedish Government and all investigators as well as the European Comission not to follow the guidelines and the Environmental Code concerning other alternatives in this case. The ambiguous action gives an unclear picture of what should be applied in Natura 2000 areas. The provisions that are set for Natura 2000 might not have a suitable effect after a project that has taken this turn that the Botniabanan project has. In the worst case scenario it might even have hollowed the legislation. The legislation is already as

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\(^{110}\) European Commission, Vägledning om artikel 6.4 i habitatdirektivet 92/43/EEG

\(^{111}\) Oxfords Brookes University Impacts Assessments Unit, Metodik för bedömningar av art 6.3-6.4 i habitat direktivet, p 36
Authors translation: Method for assessment of art 6.3-6.4 in the habitat directive.

such hard to interpret. Cases where the legislation clearly has not been followed correctly makes it only harder for future projects and plans.

From the view of the paradigms (see figure 5) this case’s decision making was more communicative than it was calculating and in that way also more in favour for the planner paradigm in the procedure. The decisions were not based on scientific facts that presented the effects on the environment. Instead, different interests were decisive factors. The selected alternative shows that socioeconomic interests were in focus when approving the project and that the environmental aspects were outweighed by the public interest. In the other scale dividing the paradigms, where the decision is made, the case was decided and approved on the two highest levels i.e. the Swedish Government and the European Commission. This places the decision making at a central level which is more “environmentalist” like. The conclusion of this places the Botniabanan case at a central and more communicative level which means that the decisions were partly following the spatial planning view and partly the environmentalist management. From the view of the paradigms this shows that combining the two paradigms accomplish the weighing and find a balance between the two without strictly following one or the other.

10.2 Tre Toppar, the no-project
The two cases are alike in several respects. Both of them had a socioeconomic aspect that was legitimate, both had a non-satisfying compensation plan and from the “other-alternative-aspect” environmentalist management would say that there were other alternatives in the Botniabanan case as well as in the Tre Toppar case. The most important difference between the two was that in the Tre Toppar case the Government preferred other alternatives to the suggested most valid one that would fulfil the project’s purpose.

In its application to the county board the proposer Idre Fjäll had six alternatives. Five of them included ski lifts and only one concerned ecotourism. The ecotourism alternative, literally spoken, was not in correspondence with the purposes of the project but was still submitted to the County Board. It is therefore plausible to conclude that the Idre fjäll foundation has not examined the possibilities for ecotourism enough. One reason for not examining the alternatives of different nature types could be that the foundation is not interested in alternatives that do not contain a new ski lift. Also, different economic aspects could be involved. Investigating alternatives that will not affect the Natura 2000 area will probably be more expensive in terms of money and time.

The presented public interest that was significant according to the EIA was not approved by the Government referring to the guidance document on art. 6.4. The project presented the public interest in terms of how many jobs the project will create which has a significant importance for the municipality as well as for the local inhabitants. The Government thought that the public interest in this case was put in the wrong context not concerning human health, public safety or overriding beneficial consequences for the environment. This is partly what they based their decision on. One other thing that spoke against the project was that it could be seen that the project will only benefit a single company, Idre Fjäll, or the municipality.
Based on the perspective concerning public interest we can assume that they missed to interpret the EU-directives for public interest. A local interest is put against an EU interest.

According to the Environmental Code chapter 7 this project shall not be given any permission in accordance with the Government’s decision. The project does not match several paragraphs of the Swedish environmental legislation or EU recommendations.

As we have mentioned above, the two cases are alike. This case can also be placed at the communicative end of the scale dividing the paradigms (see figure 5) with its mainly private interests, which goes in hand with the planners’ paradigm. But at the vertical scale, local – central (see figure 4), the two cases are separated. You could say that every project concerning a Natura 2000 area ends up at the central level, but seeing the project as a case that only concerns a small part of Sweden and mainly the people living near the projected area it is local. Even if the projector is convinced that the project is going to create a bigger labour market and a growing tourism for the region this case would have been a decision for local level if it had not interfered with a Natura 2000 area. This case is more representative of the planning paradigm, coloured with its procedures with private interests and flexible method than the environmentalist paradigm where a central overview is preferred.
11. Discussion

11.1 Natura 2000 and the landscape

One of the basic questions of this thesis is how Natura 2000 affects the landscape. Another question is how the implementation of Natura 2000 affects different levels and sectors concerning spatial development and nature conservation.

Some improvements can be noted since Natura 2000 was implemented. Thus, Europe has become more united when it comes to nature preservation and that European landscapes and species are preserved in a way that favours both ecological and economical interests. European member states have agreed upon a common goal and also accepted to follow strict guidelines from the EU Commission which can be good in the long run. However, what will happen if some things are overlooked? Does the EU really have all the knowledge to make the “right” decisions in every case? The investigations that are produced before deciding which areas that should be included in the Natura 2000 network are carried out by the member states themselves. The information is then transferred to the European Commission for final decision on the most appropriate areas. If there are more suited areas in the country that are not brought forward is hard to tell. However, there are probably areas already planned for specific land use, which contain the natural values represented in the Natura 2000 lists. If these areas are not presented by the nation they might continue to develop in a negative way for the nature and the values are lost. Let us say that this is true, that areas are “forgotten” when a country is going to present potential Natura 2000 areas. Is it right or wrong for an individual country to try manipulating the EU Commission in this way? If there are plans for the areas not presented which are important for the development for the country we feel it should be possible for the individual country to have the choice whether to present the area or not; however, only on the condition that the same values are to be represented in another Natura 2000 area as compensation. When the area has become a Natura 2000 area it is too late for the country to decide by itself what is best for its own interests. Consequently, the European Commission has the final decision when interfering in Natura 2000 areas. This might be the right way to go, when developing such a large network as Natura 2000. The member states in the EU are set at the same level not depending on the level of knowledge or of economic differences.

In countries where nature preservation is not an important political issue the Natura 2000 network has hopefully changed their view on the matter. This might have been difficult to do if the EU did not have a common network. An individual country may not have the right knowledge or interest to make the changes necessary for maintaining European biodiversity. In the countries with a well developed nature protection the routine of taking decisions upwards can in some cases seem unnecessary. Often the expertise for the decision making is located in the member state.

Natura 2000 gives member states a chance to protect nature areas that may not be rare for the specific country, but for Europe as a whole. This circumstance makes the European Union
stronger when it comes to ensure that all species and landscapes in Europe are preserved, not only the endangered ones. In order to make this work all member states have to take responsibility for the action made in their own country. For the Nordic member states, Sweden and Finland, the implementation of Natura 2000 became a large project from the beginning when it stood clear that the lists over protected species and landscapes did not fit the climate in the north. The countries had to supplement the lists to make them more appropriate for their specific conditions. This information makes you wonder why the Natura 2000 was not appropriate for the whole of Europe. As to who has the best knowledge about local nature areas the question is raised again. In this case it seems as though EU had missed a part of input before deciding on something. The EU does in fact have members in all parts of Europe, which should be equally heard in the Natura 2000 questions.

The Natura 2000 areas do not only keep within its boundaries which make it more complex to handle when it comes to spatial planning. However, it is favourable for the nature. Nature does not fit in enclosures made by man; it adapts itself to areas where the conditions are most favourable. If a species need a special disturbance in order to thrive, it may be that when an area is set out to be protected, the natural habitat is changed by not interfering in the landscape. In many ways Natura 2000 is a new way of thinking. The fact is that areas outside the appointed Natura 2000 area can be important for the species inside. When these areas are to be planned the situation is often more complex than when working with other nature protected areas where the species are assumed to stay inside the borders. The Natura 2000 erases such borders all over Europe and makes the protection work as a network in which all sites are equally important.

11.2 Nature as a result of culture
When a Natura 2000 area is chosen it is either to remain as it is through proper management, to be restored to a certain kind of area or to be left untouched. The proper way to handle in every case is up to the member state. Most of the cases have one thing in common; the cultural influence on the land is forgotten. To leave an area to develop on its own is in most cases not a good road to choose if one wishes to keep today’s species in the future. If a culturally affected forest is to be left to develop on its own, many of today’s species would disappear. The changes in the ecological landscape would in most cases be too large for them to adapt to. To maintain a certain stage of a landscape the cultural influences play a main role, both for the appearance of the landscape and for the ecological values.

Almost all land is affected or has been affected by humans, a fact which is often overlooked. This means that if a forest is left to develop on its own many of the species that exist there today will slowly disappear due to the fact that the important disturbances disappear. If a certain natural period is to be kept in an area it has to undergo the same or similar disturbances for the species to favour and continue to stay there. It’s a difficult balance getting biologists and, for instance, culture historians to understand each other in these matters. This dilemma has resulted in protected areas that no longer contain the species that it was set out to protect. Instead the species have moved out of the areas where there are more disturbances. Does this have to repeat itself over and over again or should the EU through Natura 2000 set
up clearer rules about the possible consequences when leaving an area untouched? Nature as we see it today is a result of cultural development and changing land use. Sometime during the Evolution humankind has affected the land, even the forests that we today call natural forests.

11.3 Compensation
A question that has been raised throughout the thesis is the question about compensating actions. If an action is to be made in a Natura 2000 area, the values affected by it should be compensated in the same geographical zone that the Natura 2000 network is divided in. This is now only done within national borders, but theoretically it would be possible to make the compensating actions in another country as long as it is in the same geographical zone. Maybe it is even possible for the compensating actions to have a similar development as the emission allowance which makes it possible to buy and sell the right to pollute. This would mean that countries could pay for taking compensating actions from each other.

11.4 Decision-making
The decisions how to make interference in a Natura 2000 area seem to be more complicated even if we ignore the fact that the directive is hard to interpret. The different levels of decision-making sometimes restrict the authorities. Even if the higher authority is making obvious mistakes these are not spoken of or mentioned by the lower authorities. In public cases, which almost every project that concerns Natura 2000 are, the county boards do not have the power to reject a decision from the Government. It is hard to question a decision from the Government, originally proposed by them and then really interested in implementing it. And if the EU Commission also has approved almost nothing can stop it. Even if the county board, according to the Environmental Code chapter 17, could have said no to the Botniabanan project they did not. They were forced to follow the European Commission and the Swedish Government’s decision and recommendations.

11.5 Economic aspects
The guidance document113 that the EU Commission has published is clear about order in which ecological and economic aspects should be dealt with. When examining other alternatives this document is not always followed. In big projects that will imply great costs and affect big areas of protected nature, the economic aspect should be considered on some levels of the examining process. The costs for an alternative solution should not be unrealistic in a way that the project becomes impossible to introduce even if there are other alternatives. The case of Botniabanan has showed that it is possible to circumvent guiding documents and legislations with a high pressure from a Government institution and a significant public interest. The case can be seen as an observation of ecological goals being set aside in favour of economic interests. It is possible that a case of this dignity is eroding the legislation, thru perceptions or possibly through incorrect interpretation from the European commission and the Swedish Government.

Looking at the examining of alternative solutions for projects planned to interfere with Natura 2000 protected areas the reliability can be questioned. Companies that are interested in developing or for other reasons encroaching upon a Natura 2000 area are probably not very willing to spend money investigating alternatives that they are not interested in to proceed if approved. Of course a status quo alternative is cheap to investigate. However, it can still be assumed that the best alternative for the nature was never investigated or presented because of economic reasons.

**11.6 The required interest**

A clear definition of what dignity the public interest should have is not presented in the directive. But in article 6.4 it is mentioned that public health, public safety and important consequences for the environment are examples of forced reasons that have a significant public interest. Other forced reasons that have a significant public interest and are of social or economic character should only be considered for the public interest, not from social or economic aspects.

Private projects can only be considered if they can show a significant public interest. To show some example of what dignity the EU mean, a look at previous decisions has been made in the guidance document for the Habitat Directive. Interests that have been brought up are expansion of the Transeuropean road network to increase GDP\(^{114}\) and the labour market in Germany and to develop the transport system in the EU. Other examples are the expansion of the Daimler Chrysler Aerospace Airbus Gmbh building in Germany to favour the European aerospace industry, expansion of the national high speed railroad in France to develop transport in the EU, and providing drinking water to the agricultural areas and industries in Spain. Projects of this dignity are hard and rare to find in Sweden. For the Swedish Government and industries it seems hard to provide projects that have that kind of public interest. With the geographical position on the outskirts of Europe Sweden lacks large-scale projects with benefits for the continental countries in the EU. How does the EU deal with small countries interest compared to larger countries? Do small countries in the periphery have the possibility to provide favour for example to the EUs infrastructure as the larger countries can? Probably not. From that point of view it seems that the directives vary with respect to the size the number of inhabitants, the location, etc. But, still, the Natura 2000 is a powerful instrument and sometimes an obstacle, even for the larger countries.

\(^{114}\) Gross Domestic Product
12. Conclusion

12.1 How did Natura 2000 affect nature protection in Sweden?

Before implementing Natura 2000 in Sweden nature preservation was something that only concerned our own country. However, after Natura 2000 was introduced it has transferred knowledge and increased cooperation between EU member states in order to preserve the landscapes specific for Europe, and in many ways unique in their kinds. Nature preservation in Sweden had before been proposed and driven by the Environmental Protection Agency, county boards or municipalities on the local and regional levels.

With Natura 2000 all is different and the regulation of the areas and the final decision are issued from the EU Commission. Even though the highest level of decision making has changed, the selection of Natura 2000 areas are still made at the same administrative levels as are other nature preservation areas in Sweden. If the shifting of decision making is a good or bad thing when it comes to nature preservation largely depends on which level and perspective you are looking from and what experiences you have. Some arguments for the Natura 2000 top-down decision-making are that the implementation will be more uniform when following the same regulations all over Europe. There is also a chance to better interpret regulations and to propose a protected area in a way that is gainful for the region. This makes the management of the areas easier as there are to be management plans over each area to secure the future of the landscape and species represented there. This process may be a future model for all landscapes in Sweden, not only for the protected areas in Natura 2000. There are also management plans for other sorts of protected areas, but these are often not so well developed and based on facts as the ones for Natura 2000. Even though the Natura 2000 network is guided from the EU Commission, protected areas are still selected on the national level. The EU Commission serves as a supervising authority to see that all criteria are met satisfactorily.

The Natura 2000 regulations are not to contradict the regulations in member states. This made Sweden add new rules in the Swedish Environmental Code to be able to act correctly in the cases. Until this change was done, authorities and administrators working with Natura 2000 have had some difficulties understanding the force behind the network.

12.1.1 Concrete changes

From an environmental view three main things have improved since Natura 2000 was implemented.

- Chapter 7 § 28a in the Environmental Code. This permit duty applies to all activities in every landscape which makes it a strong protection compared to other nature protections. An EIA has to be done. Nature reserves and National parks do not have the same power over exploitation in their surroundings even if it may affect them negatively.

- The EU Commission can, if necessary, overrule national interests if these might threaten or destroy international interests.
• The county boards cannot give permits for actions that may have a negative impact on identified values in an area. The permits in these cases have to be given by the Swedish Government in cooperation with the EU Commission. If permit is granted compensation actions are needed to preserve these values.

There are also some negative things from the environmental view.

• The knowledge about Natura 2000 is hard to establish with the landowners. Landowners usually do not want to get involved in things that they do not fully understand.

• The Natura 2000 areas do not stop all negative impacts. Swedish laws and courts have still not really understood the force behind Natura 2000 areas. The Swedish Environmental Code is still not completely harmonised with the legislation for the Habitat and Birds Directives on all points.

From the spatial planning view, the things that have improved for the environmentalist management have become harder for them, while the things that have become negative for the environmentalist management have become better or remained the same for spatial planning. There are now more sectorial interests and circumstances that must be taken into consideration when planning in or near a Natura 2000 area.

Thus, Natura 2000 does not only bring good things, it all depends on your perspective. In areas where development is important for the future it can be hard to motivate the plans. The importance of the regional development has to overrule the importance of the values in the Natura 2000 areas, and have to give positive effects for a large area. The challenges for planners in these developing areas have increased even if in some cases new obstacles can stop the possibility of improving future plans. Natura 2000 areas do not have the same strict borders that other nature preservation areas have and since birds and other species do not care about manmade boundaries, nature and habitats outside of the protected areas have to be taken into consideration as well.

12.2 Conflicts in the governance over the landscape

The forward movement by the environmental management implementing Natura 2000 in Sweden was at the expense of spatial planning. This can be concluded in that the environmentalist paradigm seems to fit the EU model of governance better than the planning paradigm (see figure 5). It is also likely that the “environmental governance” is a more recognized field of competence at the EU level compared to the planning that is basically a concern of the member states. The spatial planning is more of a contested area at EU level. Member states placing the planning at the local level instead of the regional and national levels exacerbate the problem between the two paradigms. Matters concerning planning do not become that important because they hardly ever reach higher decision levels and become a matter for the EU.

Applying the two paradigms in the case studies yielded differing results. The Botniabanan case ended up as communicative, not basing decisions in a scientific-like manner and central
because of the level that the case was decided on. The case has shown that it is possible to combine the two different paradigms and working sets, decisions on a high level through a communicative way of making them. The Tre Toppar case was not a combination between the two paradigms as the Botnianaban case. This case showed to be more planners-like with its mainly private interests putting forward the project. As we discussed earlier the Tre Toppar case should have been a matter for local decision-making, had there not been Natura 2000 protected areas involved. The project would only have gained a local level of development and could not be seen as a project of national interest.

12.2.1 The need for the two paradigms
Both paradigms are necessary in the sense that they depend on different knowledge/views of the landscape. The paradigms should therefore be promoted to interact in a governed way instead of struggling with each other. Giving the one or the other a higher status or more power through moving the decision making or knowledge seems like a short cut of the reason. Closer cooperation is needed between the two to reach sustainability. Even if there are different views of sustainability today in the two paradigms their different views need to interact.

12.2.2 The case studies placement in the two paradigms
In the case studies two different outcomes have been shown. On the one hand, the Botnianaban case manifested a combined procedure between the paradigms. On the other hand, in the Tre Toppar case mainly the planning paradigm was used. From these studies the conclusion can be drawn that combining the two paradigms seems to fit the administration for Natura 2000 cases better than just using one of the two. The planning paradigm where ultimate decisions are political and where governance is weighting or balancing legitimate but not compatible interests combined with the environmentalist management expertise and a central overview seems to be the recipe for a success in getting a project that interferes with a Natura 2000 area approved.

12.3 How did Sweden handle the Botnianaban and Tre Toppar case from Natura 2000 view?
The studies of the two cases, Botnianaban and Tre Toppar, have shown that investigations and research of the impacts on existing Natura 2000 areas varies on the different levels of decision making and governance. The case studies have also shown that both cases have been assessed on different grounds. In the Botnianaban case the guiding documents were partly ignored by the Government as well as the EU Commission. In the Tre Toppar case all documents were followed in order. The interest of the Government was clearly biased in favour of Botnianaban. Considering the deficiencies of the Tre Toppar case’s investigation it was obvious that the project would never have been realized. However, scrutinizing the Botnianaban case reveals that its investigation had similar deficiencies and could also be seen at the start as a project which never would be realized. The handling of the two cases has neither been optimal nor correct. Both cases have taken economic interests into the assessment too early and they are not precise. The Swedish administration of Natura 2000 cases has clearly been improved after the Botnianaban case. A more compliant and precise approach was used in the Tre Toppar case even though the trust in the Government, the EU
Commission and the legislation has probably been weakened by the way the Botniabanan case was administrated.
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