

Natura 2000 Benchmark

A comparative analysis of the discussion on Natura 2000 management issues

I.M. Bouwma
D.A. Kamphorst
R. Beunen
R.C. van Apeldoorn

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Natura 2000 Benchmark

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Abstract

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The Birds and Habitats Directives (BHD) are the most important legal instruments for the protection of nature and biodiversity within the European Union. This report presents the results of a review of the selection process and management of Natura 2000 areas in different European countries or regions. The goal of this study was to gain insight in the discussions and possible conflicts for the management of Natura 2000 areas in The Netherlands and in neighboring countries and which factors might account for the differences and similarities found. The review provides explanations of the differences and similarities in the degree of discussion and the conflicts within and between the regions. The most common source of conflict lies in the process of designation and involves the following factors: (i) land use and ownership; (ii) communication; and (iii) information transfer. Conflicts are minimised when the process of designation of Natura 2000 sites is compatible with current land use and ownership, or existing nature conservation practice.

Key words: Natura 2000 areas, Birds directive, Habitat directive, management, policy implementation

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De Vogel- en Habitatrichtlijn zijn de twee Europese richtlijnen om de Europese natuurwaarden te beschermen. De Europese Commissie vindt beide richtlijnen belangrijke instrumenten om de achteruitgang in biodiversiteit in Europa te stoppen. Alle landen van de EU zijn de afgelopen tien jaar bezig geweest met de implementatie van deze twee richtlijnen. Dit rapport bevat een vergelijking tussen Nederland en de buurlanden (Duitsland, Vlaanderen en Engeland) over de manier waarop de richtlijnen zijn geïmplementeerd. Naar aanleiding van de aanwijzing van Natura 2000-gebieden worden in alle onderzochte gebieden discussies gevoerd over de (potentiële) spanning tussen het huidige landgebruik en de natuurbeschermingsdoelen. Tijdige betrokkenheid en goede informatievoorziening over het implementatieproces blijkt essentieel te zijn voor het creëren van draagvlak. Bij de introductie van nieuw beleid moeten overheden zich verder rekenschap geven van de noodzaak tot verandering van de diverse mechanismen bij beleidsimplementatie, zoals nieuwe wetgeving, beheersplanning en subsidiemechanismen.

Trefwoorden: Natura 2000-gebieden, Vogelrichtlijn, Habitatrichtlijn, beheer, beleidsimplementatie

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Postbus 47, 6700 AA Wageningen

Tel: +31 317 48 07 00; fax: +31 317 41 90 00; e-mail: info.alterra@wur.nl

Wageningen University

Department of Environmental Sciences

PO Box 47, 6700 AA Wageningen

Tel +31 317 48 33 11; e-mail: office.lup@wur.nl

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Statutory Research Tasks Unit for Nature & the Environment, P.O. Box 47, NL-6700 AA Wageningen, The Netherlands
Phone: +31 317 48 54 71; Fax: +31 317 41 90 00; e-mail: info.wnm@wur.nl;
Internet: www.wotnatuurenmilieu.wur.nl

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Foreword

We are grateful to all people in Flanders (Belgium), England (United Kingdom), North-Rhine Westphalia (NRW - Germany) and Lower Saxony (Germany) who kindly agreed to be interviewed and wish to thank especially Mrs. Chudleigh for her critical review of an earlier version of the description of England, and Mr. Schäpers and Mrs. Marckmann for reviewing an earlier version of the description of North-Rhine Westphalia.

Many people participated in this research, however the views expressed in this report are those of the authors.

Comparing implementation processes of Natura 2000 in different European countries is interesting but challenging work – we hope we gave credit to the different choices made in this process and hope that the insight we have gained during the research might be beneficial to others as well.

We would like to thank Mark van Veen and Mariëlle van der Zouwen whose comments improved the report substantially and Jasper de Vries who helped with the research in England. A special thanks to Freda Bunce who put a lot of effort in the English editing of the report.

*Irene Bouwma
Dana Kamphorst
Raoul Beunen
Rob van Apeldoorn*

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Summary

The Birds and Habitats Directives (BHD) are the most important legal instruments for the protection of nature and biodiversity within the European Union. They regulate the protection, hunting, collection, transport and trade of protected species and habitats, and also require Member States to establish the Natura 2000 network.

This report presents the results of a review of the discussion and implementation concerning the selection and management of Natura 2000 areas in different European countries or regions: The Netherlands, Flanders (Belgium), England (United Kingdom), North-Rhine Westphalia (NRW - Germany) and Lower Saxony (Germany). The goal of this study was to gain insight in the discussions and possible conflicts for the management of Natura 2000 areas in The Netherlands and in neighboring countries and which factors might account for the differences and similarities found.

In order to explore the processes concerning the management of Natura 2000 in the different study areas, literature studies and interviews have been carried out with stakeholders representing different land use sectors; e.g., agriculture, hunting, forestry and tourism; and representatives from government agencies responsible for the implementation of Natura 2000.

Overall conclusions

The study shows that conflicts of interests between nature conservation and other human activities in and around Natura 2000 sites have occurred independently from the chosen process of implementation and stakeholder consultation in all study areas. Public support for the implementation of the Natura 2000 network is related to the involvement of stakeholders in the entire process – from formulation of the policy until implementation in management plans. If land owners and users are consulted early in the process they are less likely to object to the designation and the required conservation measures than in cases in which they have never been informed or involved. Such early involvement is essential as in many of the Natura 2000 sites the nature conservation measures depend on the voluntary co-operation of owners and users. It was therefore concluded that it was essential to invest in relationships with individual land owners and users, even though this process would take more time.

The requirement to designate Natura 2000 sites has led to changes in nature conservation policy in all regions. However, there was wide variation between the study areas concerning the degree of change required. The more the new nature conservation policies deviated from existing ones, the greater the discussion.

Societal discussion on management

The study shows that the time-frame within which discussions on site management took place differs between the regions. In three of the five study areas these conflicts are expected to continue into the future as only England and NRW are currently well advanced in the stage of management planning involving landowners and managers.

Despite these problems, it may be concluded that there are many similarities in the main issues that have already been raised regarding the management of Natura 2000. The main issues in most of the areas studied can be grouped under the following headings:

- *Discussion on selection of sites and boundaries.* Stakeholders in all areas have expressed their disagreement with the fact that solely ecological criteria were applied in the selection of sites. In Flanders, NRW, Lower Saxony and The Netherlands discussion with stakeholders followed regarding the exact delineation of boundaries in these areas. Stakeholders in general were critical of their exclusion from the selection process. Nevertheless, there is a clear distinction in the approach taken by the different study areas regarding participation. In The Netherlands, Lower Saxony and Flanders the involvement of stakeholders in the selection stage of the process was mostly limited to professional organizations and representatives of stakeholder interests (Farmers' Union, regional/local governments). In England and NRW an extensive local and regional consultation and information process was organized in which relevant private landowners were involved.
- *Discussion of land use restrictions.* Stakeholders are concerned about land use restrictions in the Natura 2000 sites and emphasize that these controls were never clarified at site level during the process of selection and designation of the area. Therefore it is not possible for land users to judge which restrictions will apply and whether this will impinge upon their interests. Because of this uncertainty the overall attitude is not supportive. The degree to which land use is a focus for discussion varies widely between the different study areas. Concern on restrictions to agricultural practice have been expressed in Flanders, The Netherlands, NRW and Lower Saxony. In The Netherlands there was more concern regarding water-based recreation and tourism sectors than in other study areas, because of their relative importance in Natura 2000 sites.
- *Discussions of financial compensation for restrictions in current and future land use.* All the study areas provide basic protection by way of the legal designation of the area. This is complemented with voluntary management schemes for landowners, which define stricter protection measures for nature conservation beyond good farming and forestry practices. Concern exists among stakeholders; both nature conservation organizations and landowners; that the financial compensation for land use restrictions of these voluntary schemes will be insufficient to cover income loss and persuade private landowners to join these schemes.

Furthermore the research shows that; unlike The Netherlands; Flanders, England, Lower Saxony and NRW did not make management plans legally compulsory for all sites.

Explanatory factors

This review provides explanations of the differences and similarities in the degree of discussion and the conflicts within and between the regions. Analysis of the factors influencing public support for management in the different regions leads to the following conclusions:

- *Conservation objectives for Natura 2000*
The biodiversity targets are broadly comparable between the study areas. They provide at best only a limited explanation for differences found between the regions with regard to societal discussions.
- *Land use*
All five regions made different choices concerning the delineation of the Natura 2000 sites. The analysis of existing land use based on European wide land cover data (Corine Land Cover) shows that all five regions have agricultural land allocated within their Natura 2000 sites, but the percentages vary from 29% in The Netherlands to 53% in Flanders. Within the study The Netherlands has designated the highest amount of natural or forest

areas within its terrestrial Natura 2000 sites. In comparison with NRW, England and Lower Saxony, The Netherlands and Flanders have fewer natural areas and forests adjacent to these designated sites. In most cases the contrasts in societal discussion regarding a given land use can be explained by the similarities or differences in land use of the designated sites.

- *Ownership*
The lowest percentage of the terrestrial Natura 2000 sites which are owned by organizations having nature conservation as an important goal (12%) occurs in Flanders. In England, Lower Saxony and NRW it is estimated that between 80-70 % of the Natura 2000 sites are privately owned. The Netherlands has the highest proportion of land owned by organizations that have nature conservation as a goal (50%). In The Netherlands, therefore, it may be concluded that, given the higher percentage of land owned by these organizations, it will probably be easier to meet the management requirements of Natura 2000.
- *The process of site designation*
The level of public support for management of the Natura 2000 sites is influenced by the degree to which stakeholders and individual land owners are involved in the early phases of the implementation. NRW and England invested in consultation with regional and local stakeholders during the process of selection and designation of the sites and prior to proposing them to the European Commission. In The Netherlands and Flanders only representative stakeholder organizations were consulted during the selection process. Individual land owners were not involved until the official designation process - after the sites had already been proposed to the European Commission. In these instances it was found that potential conflicts were deferred until a later stage of the implementation process. In all study areas stakeholders criticized the lack of involvement during the selection of sites and the fact that predominantly ecological criteria were used.
- *The overall policy debate on nature conservation in the research areas*
The current national legislation for nature conservation and the extent to which Natura 2000 fits into the existing system influences the public debate on the management of sites. In England, the Natura 2000 system for terrestrial sites corresponds relatively well with the present system, thus giving rise to less debate. In addition, good existing contacts with various stakeholders facilitated the provision of information. In The Netherlands Natura 2000, with its strict legal protection regime requires a different approach from the existing system of nature conservation.. The situation is similar in NRW and Lower Saxony, where the precedence of nature conservation goals in Natura 2000, with regard to forestry and agriculture, breaks with historical practices. Furthermore, in NRW, Natura 2000 led to an increase of protected forests, with the result that a group of private forest owners had to accommodate a new regime due to Natura 2000 designation. In Flanders the resistance of stakeholders to Natura 2000 is probably because the programme exacerbated existing conflicts regarding land use and nature conservation in the development of government policy regarding the establishment of a national ecological network.

In all the study areas a combination of the factors described above was found. Such combinations increase the chance of conflict occurring.

The most common source of conflict lies in the process of designation and involves the following factors:

- land use and ownership - the exclusion of major players in the process of designation;
- communication - failure to arrange adequate communication and participation during the designation process, if Natura 2000 represents a shift from the existing nature conservation policy;
- information transfer - failure to provide sufficient information and arrange adequate participation during the process of designation in situation where conflicts exist, results in Natura 2000 exacerbating existing conflicts.

Conflicts are minimised when the process of designation of Natura 2000 sites is compatible with current land use and ownership, or existing nature conservation practice.

Samenvatting

De Vogel- en Habitatrichtlijn zijn de twee Europese richtlijnen om de Europese natuurwaarden te beschermen. De Vogelrichtlijn is van 1979 en geeft beschermingsdoelstellingen voor broed- en trekvogels. De Habitatrichtlijn is van 1992 en geeft beschermingsdoelstellingen voor habitats en individuele planten en dieren (uitgezonderd vogels). De Habitatrichtlijn stelt bovendien een stelsel van Europese natuurgebieden in, het Natura 2000-netwerk, dat bestaat uit de gebieden die onder deze twee richtlijnen zijn aangewezen. De Europese Commissie vindt beide richtlijnen belangrijke instrumenten voor het stoppen van de achteruitgang in biodiversiteit in Europa, de zogenoemde 2010-doelstelling, zoals verwoord in de biodiversiteitsstrategie van de Europese Unie. Alle landen van de EU zijn de afgelopen tien jaar bezig geweest met de implementatie van deze twee richtlijnen.

Het formele proces van implementatie van de Vogel- en Habitatrichtlijn bestaat uit een aantal onderdelen:

- de formele omzetting van de richtlijnen in nationale implementatiewetgeving;
- de ontwikkeling van nadere regelgeving voor uitvoering en handhaving van de wet;
- de aanmelding, acceptatie en aanwijzing van de Natura 2000-gebieden;
- het formuleren van instandhoudingsdoelstellingen voor de gebieden en het vormgeven aan het gewenst beheer van de gebieden (indien gewenst middels beheersplannen);
- monitoring en rapportage over de staat van instandhouding van soorten, habitats en gebieden van de richtlijnen;
- het ontwikkelen van interpretaties en jurisprudentie van criteria opgenomen in de richtlijnen en nationale wetgeving.

Dit rapport bevat een vergelijking tussen Nederland en de buurlanden (Duitsland, Vlaanderen en Engeland) over de manier waarop de richtlijnen zijn geïmplementeerd, met name het deel rond het beheer van de Natura 2000-gebieden. De analyse in Duitsland richt zich op de deelstaten Noordrijn-Westfalen en Nedersaksen. Centraal staat de vraag welke discussies rond het beheer van de Natura 2000-gebieden worden verwacht en hoe eventuele verschillen verklaard kunnen worden. Het antwoord op die vraag kan helpen om in de toekomst de implementatie van beleid te optimaliseren. Het onderzoek bestond uit literatuurstudie en interviews. In de onderzochte regio's zijn de beleidsverantwoordelijke organisaties voor de implementatie van Natura 2000 bezocht als ook enkele belangenvertegenwoordigende organisaties. Voor de interviews is een gestandaardiseerde vragenlijst gebruikt.

Maatschappelijke discussie over het beheer van de gebieden

De tijdsperiode waarin de discussie over het beheer van de gebieden plaatsvindt, verschilt tussen de onderzochte regio's. Slechts in twee van de vijf onderzochte gebieden is de discussie over het beheer al in een vergevorderd stadium (Engeland en Noordrijn-Westfalen voor Natura 2000-gebieden met bos). Echter tijdens het voorgaande proces van selectie en aanwijzing is in alle onderzochte regio's al discussie ontstaan over het beheer van de gebieden en mogelijke conflicten met het bestaande of toekomstige landgebruik.

De volgende discussies hebben in alle onderzochte regio's plaatsgevonden:

- *Discussie over de selectie van de gebieden en de begrenzing.* Belanghebbenden in alle onderzochte regio's hebben kritische kanttekeningen geplaatst bij de puur ecologische selectiecriteria. In Vlaanderen, Noordrijn-Westfalen, Neder-Saksen en Nederland zijn er discussies gevoerd met belanghebbenden over de precieze begrenzing.

Er is een duidelijk verschil in de gevolgde consultatie- en participatiestrategieën van de onderzochte regio's. In Nederland, Neder-Saksen en Vlaanderen zijn met name overheidsorganisaties en de vertegenwoordigende organisaties van diverse sectoren (zoals landbouw, natuur en jacht) geconsulteerd in het proces rond selectie en aanwijzing. Pas bij de wettelijke aanwijzing zijn de particuliere eigenaren van de gebieden geïnformeerd. Daarentegen is in Engeland en Noordrijn-Westfalen al in een vroeg stadium op lokaal en regionaal niveau een consultatieproces georganiseerd met alle betrokkenen, inclusief private eigenaren en andere lokale belanghebbenden.

- *Discussie over de landgebruikrestricties.* In alle onderzochte regio's zijn belanghebbenden en de organisaties die hen vertegenwoordigen beducht voor de beperkingen die aanwijzing van de Natura 2000-gebieden tot gevolg kan hebben. Het feit dat men op het tijdstip van aanwijzing geen duidelijkheid kon geven over de gevolgen van de aanwijzing voor het bestaande grondgebruik heeft dat versterkt. Er is wel duidelijk een verschil tussen de reacties van verschillende sectoren op aanwijzing. In vier van de vijf regio's speelt de relatie tussen landbouwkundig gebruik en de gebieden sterk. Discussie over mogelijke conflicten tussen recreatief gebruik van de Natura 2000-gebieden en de natuurbeleidsdoelstellingen is vooral een typisch Nederlands fenomeen.
- *Financiële compensatie van beperkingen in huidig en toekomstig landgebruik en voor beheersinspanningen voor private eigenaren.* In alle regio's is discussie geweest over de financiële gevolgen van de aanwijzing van de Natura 2000-gebieden. Hierbij zijn drie onderwerpen van belang:
 1. Schadeloosstelling vanwege opgelegde restricties. Hoe worden private eigenaren gecompenseerd voor mogelijke landgebruikrestricties en planologische schaduwwerking ten gevolge van het feit dat hun eigendom aangewezen is als Natura 2000-gebied?
 2. Vrijwilligheid van beheer versus verplichtende bescherming. Alle regio's hebben gekozen voor een beheer dat is gebaseerd op vrijwilligheid. De basisbescherming is wettelijk geregeld (behoud van wat er nu is) middels de aanwijzing van de gebieden. Het beheer van gebieden wordt geregeld via diverse beheersubsidies.
 3. Regelingen beschikbaar voor financiële compensatie en beheer. Natuurbeschermingsorganisaties en belangengroeperingen betwijfelen of de bestaande financieringsmechanismen voldoende zijn om het inkomensverlies te compenseren en daardoor aantrekkelijk genoeg zijn voor privé-eigenaren. Gestegen landbouwprijzen, de afschaffing van de EU-braakleggingsregeling en de vraag naar biobrandstoffen zijn ontwikkelingen die deelname aan de beheersregelingen negatief zullen beïnvloeden.

Gedetailleerde uitwerking

Vier aspecten rond de implementatie van Natura 2000 zijn onderzocht:

- Beleidsopgave;
- Landgebruik en eigendom (op hoofdlijnen);
- Het proces van aanmelding, aanwijzing van de Natura 2000-gebieden en de consultatie met betrokken partijen;
- Algemene politieke en bestuurlijke setting van het natuurbeleid.

Beleidsopgave

Het aandeel landoppervlak dat de onderzochte regio's hebben aangewezen, is redelijk vergelijkbaar, variërend van 6% (Engeland) tot 12% (Vlaanderen). Ook de huidige staat van instandhouding die reeds beschikbaar is voor Nederland, Noordrijn-Westfalen en Vlaanderen verschilt niet heel sterk tussen de onderzochte gebieden (Tabel S1). De staat van instandhouding van Vlaanderen en Noordrijn-Westfalen is iets ongunstiger dan van Nederland.

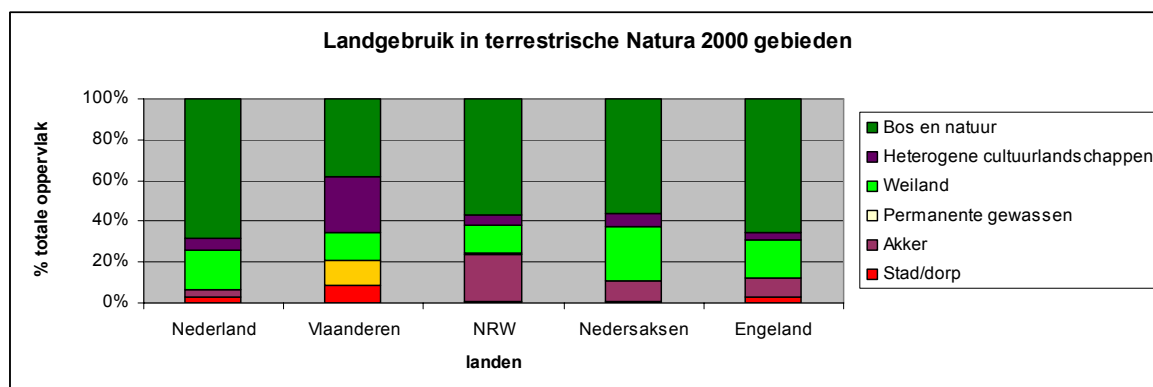
Voor habitats is de staat van instandhouding iets ongunstiger in Nederland en Vlaanderen dan in Noordrijn-Westfalen. In tabel S1 is het aantal habitats en soorten van de Habitatrichtlijn opgenomen, waarvoor de landen gebieden moeten aanwijzen. Tevens is aangegeven wat het totale aangewezen oppervlak in een land is. Sommige landen hebben namelijk grote watergebieden en kustzones, zoals de Waddenzee aangewezen, zodat het terrestrische deel ('landoppervlak') in de tabel apart is vermeld.

Tabel S1. Kerncijfers over de aanwijzing van Natura 2000-gebieden in Nederland, Noordrijn-Westfalen, Nedersaksen en Engeland

	Nederland	Nedersaksen	Noordrijn-Westfalen	Vlaanderen	Engeland
Habitats	51	87	70	44	78
Soorten habitatrichtlijn	35	65	54	22	43
Oppervlak (%)					
Totaal (inclusief water + kustzone)	13	15,4	Nvt	Nvt	Nvt
Totaal landoppervlak	9	8,2 (alleen land)	10,5	12 (land)	5,7

Landgebruik en eigendomssituatie

Alle onderzochte regio's hebben landbouwgrond in de Natura 2000-gebieden liggen. Het aandeel landbouwgrond varieert echter van 29% (Nederland) tot 53% (Vlaanderen). Nederland heeft het hoogste aandeel bos- en natuurgebied in zijn Natura 2000-gebieden (Figuur S.1). In de directe omgeving van Natura 2000-gebieden hebben Vlaanderen en Nederland minder natuur dan de overige onderzochte regio's. In alle gebieden zijn er discussies gevoerd over de te verwachten beperkingen voor de landbouw. Discussies met de recreatieve sector, jacht en visserij zijn niet in alle gebieden even intensief geweest.



Figuur S.1 Landgebruik in de Natura 2000-gebieden in de onderzochte regio's

Vlaanderen heeft het kleinste aandeel (terrestisch) Natura 2000-gebied dat in handen is van terreinbeherende organisaties (staat of natuurbeschermingsorganisaties). Van die organisaties kan verwacht worden dat natuurbescherming ook een doelstelling is. In Nederland is minder dan de helft van de gebieden prive-eigendom, wat het laagst is van de onderzochte gebieden. De eigendomssituatie heeft een grote invloed gehad op de intensiteit van de discussie en tevens op de manier waarop het consultatieproces georganiseerd is.

Aanmelding, aanwijzing en betrokkenheid

Noordrijn-Westfalen en Engeland hebben al voor de melding van de gebieden aan Brussel op regionaal en lokaal niveau belanghebbenden geïnformeerd en geconsulteerd over de op handen zijnde aanwijzing. In de andere regio's zijn de discussies daardoor doorschoven naar het moment waarop het beheer van de gebieden geregeld moet gaan worden. In alle onderzochte gebieden was er kritiek op de manier waarop het proces van selectie was georganiseerd en met name ook op de hantering van puur ecologische criteria voor de keuze van de gebieden.

Algemeen natuurbeleid

De natuurbeleidstraditie heeft het proces van de implementatie van Natura 2000 sterk beïnvloed. Ook de mate waarin het 'nieuwe' Natura 2000-beleid paste bij het reeds bestaande beleid, heeft de discussie beïnvloed. In Engeland, waar het bestaande terrestrische beschermd-gebieden-beleid van de Sites of Special Scientific Interest goed aansluit op Natura 2000, is het publieke debat beperkt gebleven. Alleen in de kustgebieden, met name rond havens, waar tot dan toe geen beschermd gebied waren aangewezen, is er veel discussie geweest. Ook de lange traditie van consultatie van private eigenaars heeft ervoor gezorgd dat de aanwijzing van de gebieden in Engeland redelijk soepel is verlopen.

In Nederland, waar Natura 2000 een verandering van het nationale beleid met zich meebracht (van bescherming middels de Ecologische Hoofdstructuur naar wettelijke bescherming), was er veel discussie met private eigenaren die plotseling geconfronteerd werden met een nieuw beschermingsregime.

In Noordrijn-Westfalen leidde de aanwijzing van Natura 2000-gebieden tot een grote toename van beschermd bosgebied waardoor een groep nieuwe belanghebbenden (private bosigenaren) ontstaan is. Ook in Nedersaksen leidde de aanwijzing van Natura 2000 tot nieuwe gebieden die eerder nog geen bestaande bescherming hadden. Hierdoor nam het aantal private eigenaren toe die rekening moesten gaan houden met natuurbeschermingsdoelstellingen. In Vlaanderen heeft het reeds bestaande conflict rond de aanwijzing van het Vlaams ecologisch netwerk de discussie rond Natura 2000 sterk beïnvloed.

Conclusies van het onderzoek

Naar aanleiding van de aanwijzing van Natura 2000-gebieden worden in alle onderzochte gebieden discussies gevoerd over de (potentiële) spanning tussen het huidige landgebruik en de natuurbeschermingsdoelen. Wel verschilt de discussie in intensiteit en toonzetting, wat in belangrijke mate bepaald wordt door de manier waarop belanghebbenden betrokken zijn in het hele beleidsproces. Tijdige betrokkenheid en goede informatievoorziening over het implementatieproces blijkt essentieel te zijn voor het creëren van draagvlak. In landen waar grote aanpassingen nodig waren ten opzichte van het reeds bestaande nationale natuurbeleid, is meer discussie ontstaan tijdens het implementatieproces. Bij de introductie van nieuw beleid moeten overheden zich dus rekenschap geven van de noodzaak tot verandering van de diverse beleidsimplementatie-mechanismen zoals nieuwe wetgeving, beheersplanning en subsidiemechanismen.

In de onderzochte regio's buiten Nederland is besloten om beheersplannen niet verplicht te maken en is de managementplanning grotendeels gebaseerd op de reeds bestaande systemen. Het besluit van Nederland om beheersplannen voor alle gebieden wettelijk te verplichten, was vanuit politiek oogpunt wellicht een logische beslissing, maar doorkruist in veel gebieden reeds lopende gebiedsprocessen of leidt tot een herhaling van eerdere discussies.

1 Introduction

1.1 Background of this study

The Birds and Habitats Directives (BHD) are the most important legal instruments for the protection of nature and biodiversity within the European Union. They regulate the protection, hunting, collection, transport and trade of protected species and habitats, and also require Member States to establish the Natura 2000 network. All Member States of the EU have been implementing these Directives for the last ten years. The following stages can be identified in the formal implementation process (Neven *et al.*, 2005):

1. the transposition of the Directives into national law;
2. the development of national regulations to implement and enforce the law;
3. the proposal, approval and official national designation of the Natura 2000 sites;
4. the identification of the management goals for specific sites and organization of the required management (with the development of management plans if required);
5. monitoring and reporting on the Favorable Conservation Status of habitats and species and Natura 2000 protection under the two Directives;
6. interpretation of the terms and criteria of the Directives and appropriate development of case-law and national laws.

The implementation of the Birds and Habitats Directives in the different Member States proved to be very problematic (see e.g., Beunen, 2006; Fairbrass & Jordan, 2001; Laffan, 2004; Scholl & Chilla, 2005, Neven *et al.*, 2005). The European Commission took legal action against many members because they did not submit a list of designated sites and they failed to take the necessary measures to prevent their degradation (Weber & Christophersen, 2002; Paavola, 2004; WWF, 2001). However, a WWF survey in 2006 showed that most Member States have made good progress with the formal implementation of the Birds and Habitats Directives (WWF, 2006). The transposition of the Directives, and the process of proposing and designating sites under the Habitats Directive, are almost complete in the 15 longer established Member States of the European Union, and good progress is being made in the ten new members (Natura 2000 Barometer; WWF, 2006).

In the coming years, attention will shift from the proposal and designation process to the management and protection of the sites against adverse influences (article 6 of the Habitat-Directive). Several Member States have made the development of management plans for the Natura 2000 areas compulsory under national law.

Debate has been initiated in many of the Member States both by the formal designation under national law and also the national obligation to draft management plans for the Natura 2000 sites. This centres, at national, regional and local level, on the effects on land use in and around these sites and on their management. In several cases a wide range of people, including authorities, land owners, farmers, interest groups, and researchers, have criticised the top-down and technocratic¹ dimension of the EU Directives (e.g., Chilla, 2005; Hiedanpää, 2002; Coffey & Richartz, 2003).

In 2007, in The Netherlands, the public debate on the management of Natura 2000 was intensified as a result of the official designation procedure. Over 5,000 formal objections were

¹ The Birds and Habitats Directives apply strict biological criteria for the selection of sites.

raised by owners, managers and other stakeholders against the formal designation of 111 sites. The Netherlands Environmental Assessment Agency (PBL) was interested in reviewing whether similar discussions on the land use and management of Natura 2000 sites were occurring in the neighboring regions of the country as well. The experiences from other Member States can be used to place the discussions from The Netherlands in a broader European perspective. Greater knowledge of the experiences of other Member States might be of assistance should The Netherlands encounter similar implementation problems.

The implementation of the Natura 2000 programme is occurring in different socio-political contexts and these differences need to be considered when studying other countries' knowledge, experiences and insights regarding the Birds and Habitats Directives. For example, Member States differ in their socio-political context and in their style of governance (e.g., Terpstra & Havinga, 2001) and each state has thus implemented the Birds and Habitats directive in a different way.

1.2 Aim of the research and research question

The aim of this study is to investigate the discussion and likely conflicts in the management process of Natura 2000 sites in The Netherlands and in its neighboring countries, specifically Flanders, England, North-Rhine Westphalia (NRW) and Lower Saxony.

The overall research question underlying this study is:

"What are the discussions and probable conflicts regarding the management of Natura 2000 sites in The Netherlands and its neighbors, and which factors might account for the differences and similarities found in the other countries?"

1.3 Research design

In order to fulfil the aims described above, an analytical framework was developed in which consideration was given to different factors that might influence discussions over the management of Natura 2000 sites and the public support for the European nature conservation policy.

This framework is based on discussions within the project team and on empirically based literature concerning implementation of nature conservation policies in the EU. The factors that were considered are (see Chapter 2).

- conservation objectives for Natura 2000 sites;
- land use and ownership of the sites;
- involvement of stakeholders in the process of site designation;
- the overall policy debate with regard to nature conservation.

The research comprises a comparative analysis of the above mentioned factors between the following regions², see Figure 1:

1. The Netherlands
2. England (United Kingdom)
3. Flanders (Belgium)

² In the report the term region includes The Netherlands and England, although officially they are countries.

4. Nord-Rhein Westphalia (NWR - Germany)
5. Lower Saxony (Germany)

These regions were selected because, on the basis of their overall land use, it was probable that their discussions surrounding Natura 2000 would be comparable to The Netherlands (<http://www.eea.europa.eu/>). In addition, The Netherlands Environmental Assessment Agency, the organization that commissioned this assignment, had a preference for these areas.

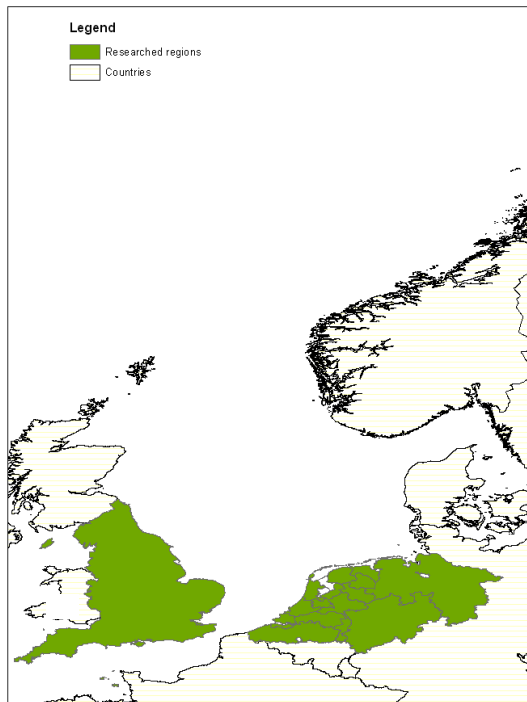


Figure 1

Overview of the study areas

The study began with a brief exploration of the implementation process of Natura 2000 in The Netherlands and discussions which took place there regarding the management of the sites. This analysis was used to determine the organizations to interview in the neighboring regions and to develop the questionnaire. For each region, document studies and interviews were carried out. Consultations took place with the government representatives responsible for the implementation of the Birds and Habitats Directives, as well as with relevant stakeholders from various land use sectors: e.g., agriculture, forestry and tourism (see Table 1, Annex I). In all areas the researchers approached similar stakeholders, some of whom indicated that they held no opinion on the issue, or were unavailable in the period of the visits. Additionally, in England and Lower Saxony, consultations took place at a local level in order to gain more insight in specific opinions.

In the meetings, attention was paid to the overall process of implementation of Natura 2000 in the country or regions, the societal discussion and also conflicts that had arisen on issues related to the site management. The questions used in the interviews are provided in Annex III. In The Netherlands no consultation was needed because the researchers had enough sources of information regarding the views of a range of stakeholders on Natura 2000.³

³ During the research period, under Dutch law, the Ministry of Agriculture, Nature Management and Food quality prepared a report on all official objections expressed during the designation of the Natura 2000 sites (LNV, 2007). This report and other available literature provide a good overview of the concerns and opinions of stakeholders in The Netherlands.

On the basis of the interviews and literature review, country descriptions were made, which formed the basis of the comparison between the regions (Annex II)

Table 1. Overview of the organizations that were approached and the respondents that were interviewed (bold) or contacted by telephone or email (italic).

	Responsible governmental organization	Organization representing Agriculture	Organization representing Forestry	Organization representing Nature conservation	Organization representing Hunting/Fisheries	Organization representing Recreation	Others
Flanders	Agentschap voor Natuur en Bos	Boerenbond	<i>Hoge Bos Raad</i>	Natuurpunt	<i>Hubertus Vereniging Vlaanderen</i>	Toerisme Vlaanderen	*Landelijk Vlaanderen *Instituut voor Natuur en Bos-onderzoek.
Lower Saxony	*Niedersächsischer Landesbetrieb für Wasserwirtschaft, Küsten- und Naturschutz *Landkreis Diepholz	Landesbauernverband e.V. (Landvolk Niedersachsen) Landwirtschaftskammer	Waldbesitzerverband Hannover e.V	Naturschutzring Dümmer	Zentralverbund Jagtgenossenschaften		
NRW	* Landesamt für Natur, Umwelt und Verbraucherschutz * Landesbetrieb Wald und Holz	<i>Westfälischen Wirtschaftverband</i>		Der Naturschutzbund Deutschland e.V. (NABU)	Landesjagdverband Nordrhein-Westfalen		
England	Natural England	<i>National Farmers Union</i>		National Trust	Kent and Essex Fisheries Committee	Birchington Angling Sea Society	*Thanet Coast project *Thanet District Council *New Forest National Park Authority

1.4 Outline of this report

In Chapter 2 there is a description of the analytical framework which was used to determine which information to gather and how it should be analyzed.

Chapter 3 contains the summary results of the comparative analysis of the five regions and provides information on the following: the conservation objective for Natura 2000, land use and ownership of the sites, involvement of stakeholders in the process of site designation, the overall policy debate on nature conservation and the management of the sites.

Chapter 4 compares the discussions which took place in the respective regions and describes how far the factors identified in the analytical framework provide an explanation of the differences and similarities found. In this chapter more general lessons are also considered regarding the implementation of nature conservation policy.

The country descriptions which provide detailed information on the progress of the implementation of Natura 2000 are added to this report as an annex (Annex II).

2 Analytical framework

2.1 Introduction

The aim of this research is to outline the discussions that took place in the different regions regarding the management of Natura 2000 sites, to identify possible grounds for conflict foreseen by different stakeholders, and to identify the factors that explain the differences and similarities found in the regions.

In order to structure the consultations an analytical framework was developed to delineate factors that might influence the management of Natura 2000 sites, resultant conflicts and the public debate. This analytical framework, which is outlined in this chapter, was used to shape the country descriptions.

2.2 Analytical framework

This study deals with the management of Natura 2000 sites and the discussions and conflicts that may be expected in the organization of this management; which relate to the implementation of the Birds and Habitats Directives and the context in which the Natura 2000 policy has evolved in a country (Neven *et al.*, 2005)

At the start of the research an analytical framework was developed that delineates factors that might influence the management of Natura 2000 sites, the resulting conflicts and the public debate. This framework is based on discussions within the project team and on empirically based literature dealing with the implementation of nature conservation policies in the EU (Beunen, 2006; Fairbrass & Jordan 2001; Laffan, 2004, Scholl & Chilla, 2005; Neven *et al.*, 2005).

The following factors were identified which might influence the management of the Natura 2000 sites and possible ensuing discussion and conflicts:

1. *The biodiversity targets that Natura 2000 sets for the specific country.*

The assumption is that some biodiversity objectives are more difficult to achieve than others, in which potentially complicates the implementation of the Natura 2000 policy. The number and total area of Natura 2000 sites that need to be designated is dependent on the current presence of species and habitats of European conservation interests in the country or region. As a result the policy objectives vary widely between different regions. Also the types of areas which need to be designated differ between the regions (e.g., forest, wetlands and grasslands) and, as a result, different requirements for the management of Natura 2000 sites⁴ can be expected.

In 2007 the countries had to submit their first report on the Favorable Conservation Status of the species and habitats to the European Union. This report also provided insight into the current conservation status of species and habitats in the country and the policy target (e.g., all species and habitats should have a Favorable Conservation Status).

⁴ In the framework of this research it was not possible to analyze for which species and habitat types most conflicts could be expected.

Therefore, in order to assess the policy target of any country or region the following information was important:

- for how many species and habitats did the country or region need to identify Natura 2000 sites?
- how many sites were designated – what was the total surface area designated?
- what was the Favorable Conservation Status of species and habitats in the country?

2. *The current land use in and around the sites and present ownership of the sites*

Nature conservation targets for a specific site might lead to restrictions on the current and future land use in and around the sites. According to Rijnveld & Koppenjan (1997) support for any policy depends to a large extent on stakeholders seeing a possibility of safeguarding their own interests. In discussions on the restrictions that the designation of Natura 2000 sites impose on a region, often the debate is also influenced by stakeholders' apprehension over possible additional restrictions in the future. If the nature conservation aims of the sites are compatible with current and future land use there may be less conflict over their management. However, if land use in and around the area is restricted then it is more likely that conflicts will arise.

The assumption is that the current land use and ownership in the regions have influenced the societal discussion on the management of the sites.

In The Netherlands the expected impact of the designated Natura 2000 sites on the surrounding land, and vice versa, is an important issue for debate. It is assumed that small sites in non-natural settings will require more restrictions on the land use of surrounding areas than larger Natura 2000 sites (MNP 2005). Small sites are more vulnerable to negative outside influences (e.g., pollution and disturbance).

3. *The involvement of stakeholders in the process of implementation of Natura 2000*

The literature dealing with implementation emphasizes the importance of the process, the institutions and actors involved, and their interactions (Mazmanian & Sabatier, 1983; Schofield, 2001; Barrett, 2004). Another important aspect is the various ways actors interpret Natura 2000 and their experience with of the Birds and Habitats Directives.

The implementation of such policies depends on the involvement of various stakeholders (van Dam *et al.*, 1996; Rijnveld & Koppenjan 1997; Litjens, 2000), and their success depends largely on the contribution and involvement of key stakeholders who have the authority and resources such as money, land, information, or expertise.

The effects of the Birds and Habitats Directives become apparent in the actions and decision making of involved parties. Such being the case, this study focuses on relevant actors and examines their involvement in the process, and how their decisions and actions were influenced by the Directive. Participation or involvement of stakeholders may manifest itself in different ways.

In order to characterize the level of participation of the public in policy making, a *participation ladder* is often used to provide insight into their level of involvement in these processes. In the implementation of Natura 2000, neither the public nor the stakeholders were involved in the drafting of the Directives which is the first phase of policy making. Their involvement was restricted to the formal stage of government consultations about site proposals and designation.

This study examined the consultation procedure in order to discover the following:

- who was involved (e.g., land owners, land users, NGOs, stakeholder representatives)?

- how were they involved? This concerned an assessment of the levels of influence. Were those involved also able to influence the site designation and/or decisions about management of the sites?
- at what stage of the process were they consulted? Could they also influence the designation or the way the management of the areas were organized? For stakeholders it might be important for them to be able to influence the policy, but just as important to be informed about changing policies which might affect their own activities.

Existing participation ladders; e.g., Cornips (2006) and Edelenbosch & Munnikhof (2001); were adapted to suit the requirements of Natura 2000 and this specific study and were used to investigate the above issues.

Table 2 shows the participation ladder that was developed, which describes both stakeholders and their type of involvement

Table 2 Participation ladder for selection, designation and management of Natura 2000

What is the degree of stakeholder participation?	Natura 2000 – selection, designation and management
Open participation (everyone- all civilians)	All civilians are provided with an opportunity to participate
Selective participation (limited group of civilians)	Only directly involved stakeholders (owners & users) are provided with an opportunity to participate
Professional participation (only professional organizations)	Professional organizations (nature conservation organizations, Farmers Union etc) are given an opportunity to participate
Traditional decision-making (no-one except the government)	The government is the main actor and - apart from legal consultation procedures - no one else participates
Type of involvement	
Shared policy making between government and others	Various organizations and/or civilians are involved in the policy process through interactive participation
Consultation	A formal procedure allows people to express their viewpoints during the process, which are taken into consideration before making a decision
Formal procedures for approval	The formal procedure allows opinions to be given on proposed decisions and an opportunity for objections and appeals
Inform	Information is provided to those concerned

4. The existing debate on nature conservation policy in which Natura 2000 is being implemented.

There is always a potential need for change when new policies are integrated into current practice. However, the process also presents the opportunity re-fight battles that had previously been lost. In any given region it is therefore necessary to study the history of nature conservation and other land use, and to review relevant earlier discussions, in order to understand the implementation process.

Figure 2 presents a schematic overview of the different factors that might influence the management of the sites, with potential sources of conflict.

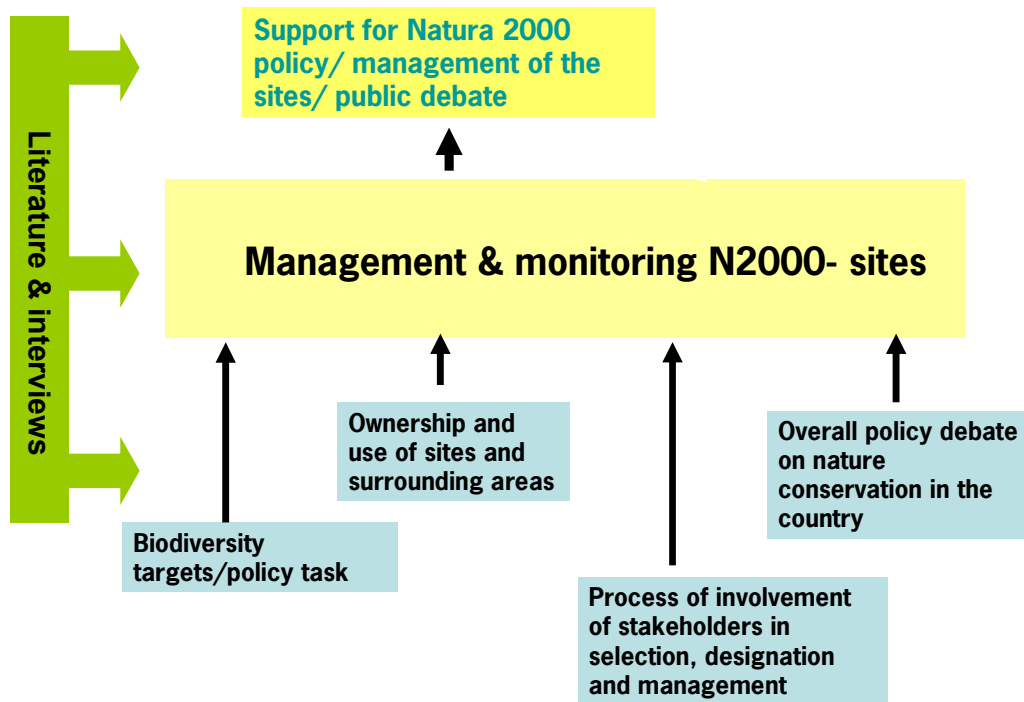


Figure 2 Analytical framework

3 Results: comparative analysis

3.1 Introduction

This chapter provides a comparison of the five research areas (The Netherlands, Flanders, England (UK), NRW (Germany) and Lower Saxony (Germany)). The comparison is based on the factors which were identified in the analytical framework in Chapter 2. An extensive description of each of the regions can be found in Annex II.

3.2 Factors influencing management discussions and conflicts

3.2.1 Policy objectives and task

Area designated

Depending on the region, 6% to 12% of the surface area was designated under Natura 2000. Flanders, The Netherlands, Lower Saxony and NRW all face a similar challenge, because they have an almost equal percentage area of designated land. England has the least amount at 6%, and the UK total is 8.9% (Table 3). However, the sizes of the designated sites vary considerably among the study areas (see Figure 3 & Annex III). The analysis of the size of the designated sites (Figure 3) shows that, in comparison with the other regions, The Netherlands has designated relatively large complexes.

Table 3 Facts and figures on the Natura 2000 network for in Netherlands, Flanders, Niedersachsen, Nord-Rhein Westphalia (NRW) and England. Source: Veen & Bouwma, 2007; Pelk et al., 2007; <http://www.mu1.niedersachsen.de/>;

<http://www.naturschutz-fachinformationssysteme-nrw.de/natura2000-netzwerk/>;

<http://www.jncc.gov.uk/page-4>

	Netherlands	NRW	Lower Saxony	Flanders	England
Habitats HR	51	87	70	44	78
Species HR	35	65	54	22	43
Areas					
VR	79	25	71	24	84
HR	141	518	385	38	240
Total	162		385	62	unknown
Surface(ha)	1.115.485	278.525	499.984	163.500	1.517.000
Total area of country (including estuaries and coastal areas)					
Terrestrial area	316.660	278.525		163.500	
Surface (%)					
HR		5,4%	6,8%	7,5%	
VR		4,5%	7,1%	7,3%	
Total area	13%	8,2%	14,4%	12%	5,7% ⁵
Total terrestrial area	9%		10,5%		

⁵ Total area designated for the UK is 8.9 %

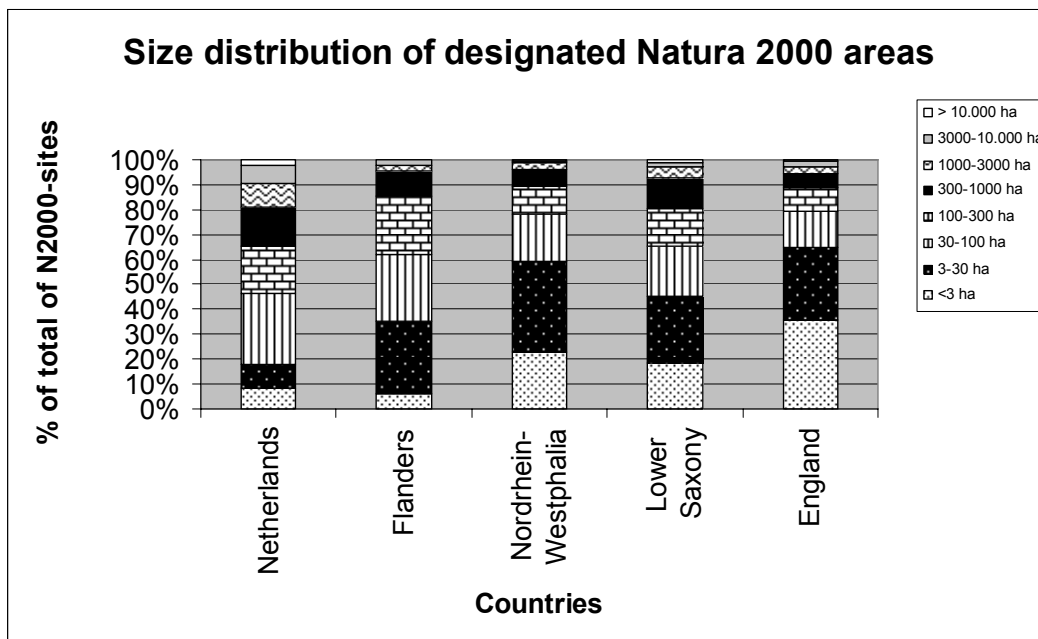


Figure 3: Distribution of area sizes designated by the respective regions⁶. Sites that have similar names but consist of several unconnected sites have been counted separately. Note: the large number of small sites in England is partly due to the way the Natura 2000 areas were digitized. Source: Veen & Bouwma, 2007; <http://www.mu1.niedersachsen.de/>; <http://www.naturschutz-fachinformationssysteme-nrw.de/natura2000-netzwerk/>; <http://www.jncc.gov.uk/page-4>.

Favorable conservation status

All regions have recently submitted the first report on the Conservation Status of the species and habitats for which Natura 2000 sites have been designated⁷. The information outlining the Conservation Status in Belgium, The Netherlands, NRW and the UK is outlined in Figure 4. The report for Lower Saxony is not yet publicly available.

Based on this figure it can be concluded that the Conservation status of species in Belgium and North-Rhein Westphalia is less favorable than in The Netherlands. In the UK it is more favorable. For habitats the UK, Belgium and The Netherlands have a less favorable situation than North-Rhine Westphalia.

⁶ England has designated many small isolated areas, but the GIS-data also show some which are adjacent to larger Natura 2000 sites that have been identified as single sites. The GIS-data therefore overestimate the fragmentation of the Natura 2000 sites in England.

⁷ The methodology to assess this was provided by the European Commission. Although the Commission has standardized the method of describing the Conservation Status as far as possible, differences in interpretation sometimes occur.

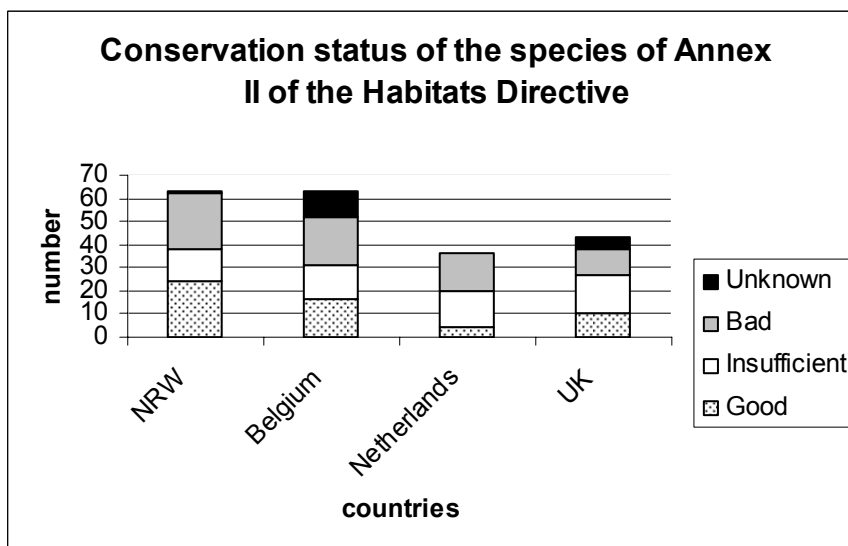
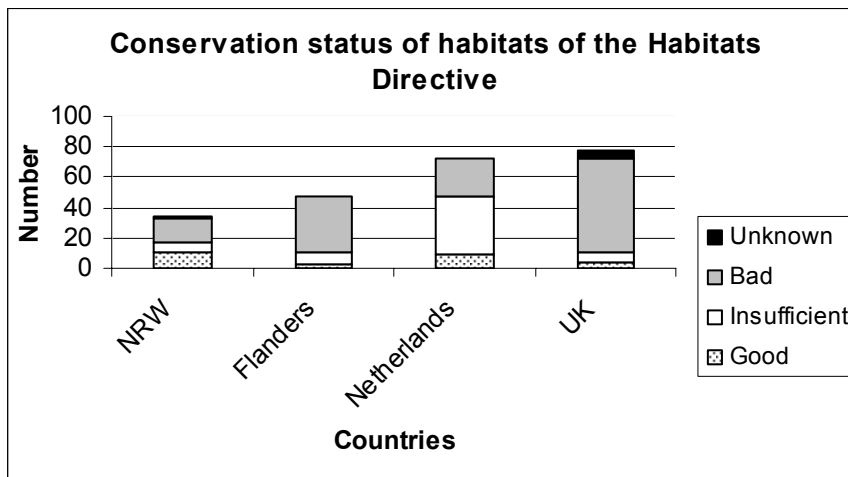


Figure 4: Overview of Conservation Status in NRW, Belgium and The Netherlands. The figures for Belgium cover the Atlantic region⁸. Source: LNV, 2006a; <http://www.lanuv.nrw.de/>; Joint Nature Conservation Committee (2007); Heutz, G. & D. Paelinckx (red), (2005); Bruyn, L. de en D. Paelinckx (2007a,b).

3.2.2 Land use, ownership and management

Land use

The analysis of existing land use, based on European wide Landcover data (Corine Land Cover), shows that currently it is comparable in the different regions. The Netherlands has the highest amount of natural or forest areas within its terrestrial Natura 2000 sites. All five study areas have agricultural land allocated within their Natura 2000 sites (percentages vary from 29% to 53%). According to this analysis Flanders has the highest percentage of agricultural lands (Figure 5).

⁸ Flanders: together with Brussels, the Northern part of Wallonia and the North Sea, but excluding the municipality of Voeren.

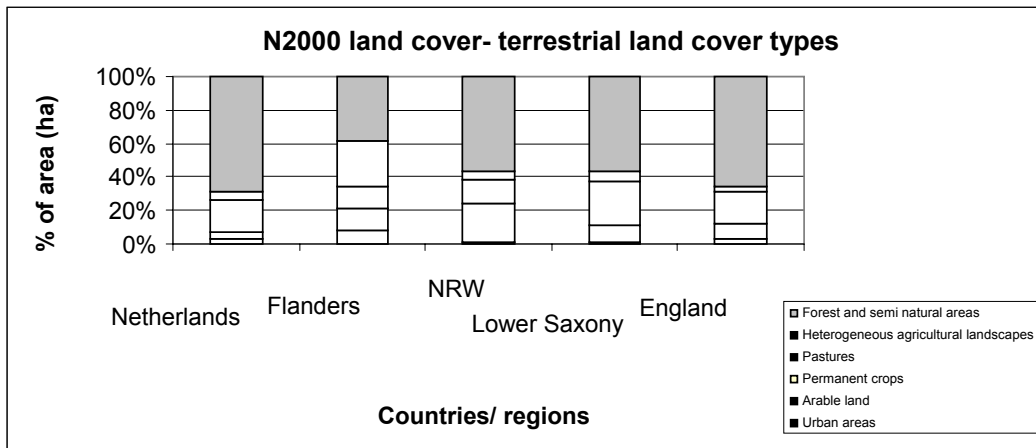


Figure 5: Terrestrial land use in Natura 2000 sites. Source: Alterra.

The designated Natura 2000 sites in The Netherlands and Flanders have relatively fewer natural areas and forest on the periphery compared with England, NRW and Lower Saxony (Figure 6).

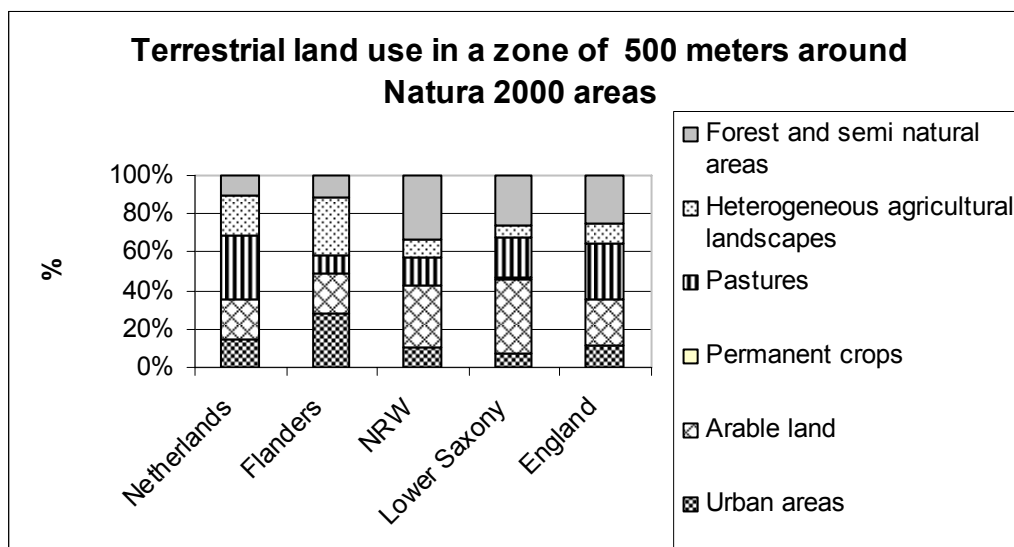


Figure 6: Land use in a zone of 500 meters of the Natura 2000 areas.

Ownership

In Flanders more than 50% of the Natura 2000 sites is owned by private landowners. Only 12% is owned by the government and nature management organizations. In Lower Saxony, agriculture and forestry are the main activities in the Natura 2000 sites (about 60% and 11% respectively), both of which are managed mainly by private landowners.

In England 65% of the sites designated under the Habitats Directive (as Special Areas of Conservation - SACs) is private or commercially owned. 25% has some type of management arrangement and 40% none (Holdaway & Holdaway 2001). The remaining 35% is owned by Natural England, local authorities, voluntary organizations or Forest Enterprise and the MoD. In The Netherlands around 50% of the terrestrial sites is owned by the state, and nature conservation organizations or other organizations with similar objectives.

Based on the information gathered in this research it can be concluded that Flanders has the lowest percentage of terrestrial Natura 2000 sites owned by organizations whose obligation to meet Natura 2000 targets coincides with their own aims; England, Lower Saxony and NRW rank in the middle; and The Netherlands has the most (50% of the sites is owned by organizations with nature conservation goals). Therefore it can be concluded that, with regard to ownership, The Netherlands is in a comparatively favorable situation in comparison with its neighbors.

This difference can most likely be attributed to the different history of nature conservation in the various regions. In Flanders, NRW and Lower Saxony, the acquisition of land for nature conservation by the government or by NGOs was, and remains, a less important nature conservation strategy than in The Netherlands (see Annex I).

3.2.3 Process of designation and stakeholder participation

Strategy of site designation

In all regions, only ecological criteria were considered in the process of site selection. The Netherlands tried to avoid the designation of small sites because of their greater susceptibility to external influences (MNP, 2005). Therefore, the degree to which other regions had followed a specific designation strategy was also examined during the consultation stage.

According to the respondents, in Lower Saxony the strategy was initially centered on designating sites already owned by the state, or those which were already designated Nature Conservation Areas. However, this strategy could not be maintained, because these sites were insufficient for the requirements of the Natura 2000 network. The EC additionally required further non-designated sites to be included. In cooperation with the national government, Lower Saxony began the designation of marine sites sooner than other European regions.

Although marine habitats had not previously been included, England has a long tradition of site designation (e.g., SSSIs); however, they did not qualify automatically as SPA or SAC. Therefore, England made a completely new selection of sites, based on solely ecological criteria. Many of the new Natura 2000 sites were also SSSIs, and boundaries were strictly drawn around the qualifying habitat types.

NWR designated the sites based on an extensive survey of the occurrence of species and habitats in their region. According to respondents, they also aimed to designate larger natural complexes.

Flanders also designated sites on the basis of detailed information of the occurrence of habitats and species (ecological criteria). To promote ecological connectivity, larger areas around the actual effective habitats were also proposed. This resulted in a list of sites which included a large amount of land that was not actual habitat, but under land use, such as agriculture, industry and residential areas. Some of the non natural habitats were excluded from the Natura 2000 sites at a later phase. Sites that were already afforded protection, as, were not a major consideration in Flanders.

Participation strategies

In Annex II a detailed description is provided of the designation processes that occurred in the five regions.

For this research an important question was how the regions organized the participation of stakeholders during the designation process. Although the actual strategies may have varied

at site level, it is possible to indicate the approach taken by the regions by referring to the differences outlined in Chapter 2 (see Table 2).

From this research it is apparent that in different phases of the implementation of Natura 2000, the types of stakeholder and the nature of their involvement varied. Therefore three different steps should be identified in the implementation process of Natura 2000:

Identification and notification of the sites

Whilst reviewing the different regions a division into *two groups* can be observed with regard to stakeholders' approach to involvement in the process of designation.

In England, NRW and Lower Saxony, the process in this phase of the implementation can be characterized as consultation process with *selective participation*, i.e., only relevant people were involved. By establishing working groups, England, NRW, Lower and Saxony undertook an extensive site-based consultation process with managers and owners of the sites, and an official procedure was established at the local level to enable complaints to be lodged prior to the list being sent to the EC.

- In England public consultation with land owners and users started after a list of possible SACs was approved by the government in 1995. In addition, a wide range of organizations, including governments, NGOs and industrial and commercial bodies, were asked to comment on the list of possible SACs. These comments were used to make some alterations to the list. Consultation was organized at a regional level. When the team responsible knew that designation was provisional and likely to become definite, English Nature contacted farmers, users, and land owners to inform them about the consequences and possibilities.
- In NRW local working groups were established, incorporating all owners and important stakeholders. In addition, proposed designations were announced locally and an official procedure for raising objections was set up. This led to boundary changes in the sites. Additionally, in some cases, stakeholders contracted consultancy bureaus for a second opinion on the occurrence of species and habitats on which the designation was based.
- In Lower Saxony, public hearings with stakeholder groups were organized for each site. This sometimes resulted in the Natura 2000 site boundaries being modified and, in some cases, in specific parts of sites being excluded from further consideration.

In The Netherlands and Flanders this part of the implementation process involved only professional organizations and can be denoted as *professional participation*. Their contribution involved giving advice which was taken into consideration in the policy process. The Netherlands and Flanders carried out consultations at national and regional level without establishing an extensive site-based consultation process. The main targets were the authorities responsible for the areas (including NGOs) or national organizations representing affected stakeholders.

Official designation of the sites under national law

In all regions a formal procedure was followed in which the sites to be designated were announced and all involved stakeholders had the opportunity to launch formal objections (*formal procedures for approval*).

The advantages and disadvantages mentioned by different respondents, related to consultation prior to official designation in the implementation process, were:

- early participation gave more opportunities of finding best solutions for all, thus increasing public support;
- early participation generated stakeholder support;

- early participation decreased the size of the areas;
- early participation increased the legitimacy of later decisions.

A disadvantage of using professional participation in this phase, mentioned by the respondents in Flanders, is that potential conflicts were deferred until the phase in which management planning was discussed with owners.

Management planning

Of the five study areas, only England and NRW have reached the development stage of management planning with landowners. Given the nature of this type of planning, relevant stakeholders are involved in a process that comprises both consultation and shared policy making.

In The Netherlands, management plans are legally obliged to be established in close cooperation with owners, users and stakeholders. These meetings should, according to the law, be aimed at gaining public support for the management plans. Therefore, it is also likely that, in The Netherlands, management will be organized on the basis of shared policymaking. In Flanders, some pilot projects for creating management plans have also been characterized by shared policymaking, with those involved striving for consensus based solutions (see also paragraph 3.3).

In particular, a participatory approach is more likely in this stage of the implementation of Nature 2000 as successful management will depend on the contributions of the individual owners and users.

3.2.4 Overall policy setting for nature conservation

This paragraph briefly summarizes the history in the five regions with regard to nature conservation and associated conflicts, prior to the implementation of Natura 2000.

The Netherlands

The Netherlands have a long history of nature conservation (Van der Windt, 1995; Van Loon *et al.*, 1996). The Dutch government plays an important role in nature conservation. There are laws to protect the natural environment and a robust nature conservation policy, introduced in 1990, of which the main objective is the development of a coherent ecological network (the EHS). In The Netherlands, an important strategy in the achievement of this network has been State acquisition of land. In addition, the various NGOs seek to enlarge their holdings by buying adjacent lands or new areas: the development of natural richness is then promoted in the latter. As a result of this strategy, a large proportion of the land with high nature conservation value is owned by the state or by conservation organizations. Recently there has been increased political interest in expanding the area of privately owned land that is managed with conservation objectives.

The negative effects of agricultural use on nature and landscape became obvious with the increased cultivation of land that took place in the first half of the 20th century, and the large-scale consolidation of land that began after World War II (Van Loon *et al.*, 1996). The main strategy for avoiding these negative effects was a spatial separation of nature and agriculture. Nevertheless there is a long history of conflicts with agricultural use. The main issues are fertiliser deposition and the lowering of water tables, which have achieved greater prominence with the new EU-regulations which require governments to enforce the environmental policies.

Germany

In Germany, the federal States (die'Länder') are responsible for nature conservation. At the national level, the German Ministry for Environment, Nature Protection and Nuclear Safety (Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit) is responsible for the implementation of the Bird and Habitats Directives. For this reason, they coordinate and tailor all the state proposals which are sent to Brussels. Within the ministry, it is the Department for Nature Conservation (Bundesamt für Naturschutz: BfN) which plays the most important role in the whole process. National government and State governments and their administrative staffs cooperate in a nationwide working group (Länderarbeitsgemeinschaft Naturschutz, or the LANA).

The European Commission has ruled that Germany should adjust its federal legislation so that the national exclusion clause for agriculture, forestry and fisheries (Landwirtschaftsklausel) would no longer apply within Natura 2000 sites (Anon.). This important clause states that regulated use by farmers, foresters and fishermen (e.g. good practice) can not lead to a violation of nature and landscape (Van Apeldoorn, 2007).

Germany differentiates between several categories of protected natural areas, with each having its own protection regime. Four regimes and the categories for which they apply are especially important because they are relevant to most of the Natura 2000 sites selected. The categories are: Nature Reserves, National Parks, Biosphere Reserves and Nature parks (Naturschutzgebiete, Nationalparke, Biosphärenreservate und Naturparke) (Van Apeldoorn, 2007) the first three of which provide the highest degree of protection.

England

The UK, including England, has a long history of nature conservation, with legislation dating back to the nineteenth century (Reid, 1997, Rootes, 2007). Nature conservation was further formalized with the creation in 1948 of the Nature Conservancy; under whose remit areas could be designated as Sites of Special Scientific Interest (SSSI). In 1981 the Wildlife and Countryside Act was drawn up to improve nature conservation, to meet European levels of protection and to implement the Birds Directive. This act introduced legislation to address species protection and habitat loss.

In 2001 the Department of the Environment, Food and Rural Affairs (DEFRA) was created. This department has statutory responsibilities for nature conservation in the United Kingdom. The Joint Nature Conservation Committee (JNCC) is the scientific statutory adviser to Government on UK and international nature conservation. Its work contributes to the maintenance and enrichment of biological diversity, the conservation of geological features and the sustainment of natural systems. The role of Natural England and its predecessors was the identification of areas of special interest and the creation of Nature Reserves (Garner 2002).

During the twentieth century, nature conservation policy was dominated by the tightly bound agricultural community of interest at the Ministry for Agriculture, Fisheries and Food and the National Farmers' Union (Cox *et al.*, 1986; Fairbrass & Jordan, 2001). The general assumption was that agriculture and forestry were compatible with nature conservation objectives. In 1992 protection for SSSIs was increased. With stricter conservation acts local planning authorities had to consult the conservation agencies about planning applications likely to affect any SSSI. This was done to ensure that nature conservation interests were taken into account before the development of a site.

Flanders

Nature protection in Flanders started in the seventies, it has an important concept in the Flemish ecological network (Vlaams Ecologisch Netwerk; VEN). This of a network of core

areas (existing and potential large units of environmental importance) with a system of supporting zones and connecting structures (IVON) (Belgium 2008). The network is based on a policy of restriction: certain land use activities are prohibited. In the 1990s serious protests occurred in Flanders against the ecological network which even led to the resignation of a Minister. As a result the conflict over land for nature is a politicized theme. There is still ongoing conflict in Flanders, and Natura 2000 came on top of this, which increased the suspicion of the Flemish public and stakeholders towards nature conservation in general and in particular to Natura 2000.

3.3 Management & monitoring of the sites

Setting goals at site or national level

The Habitats Directive requires that the setting of goals is undertaken at site level. Favorable Conservation Status will be judged at national and biogeographical levels. A potential difficulty is the harmonization of management measures and goals at site level with the national, regional, or biogeographical conservation goals of Natura 2000.

The Netherlands is currently alone among the regions studied to have drafted a document at national as well as site level. England and the two German States have developed no documents setting goals at the regional level. In addition, Flanders is still in the process of deciding whether to formulate a regional goal setting document. This would mean a change in their management strategy. This was previously based on combining planning conservation objectives and management measures in one interactive process of management planning with stakeholders. Stakeholders fear that once the goals are formulated at the region level, they will be confronted with restrictions when management measures have to be adjusted to the goals.

Management plans

The Netherlands is the only region among those studied, in which the formulation of management plans has been made obligatory under law. Management plans have to be ready three years after official designation of the area as a Natura 2000 site. In order to develop the management planning, specific guidelines were drafted (LNV, 2006a).

All other regions also indicate that management planning will occur. In Lower Saxony and England this will usually be by way of established management planning processes and procedures for designated sites (SSSI, Naturschutzplanung, Landschaftsplanung). In the UK, marine sites have special status, with an individual management group established to draw up a scheme.

In NRW a specific planning system was established for forests, because there was insufficient coverage for this type of habitat in the existing planning system. At the moment the responsible governmental organization, LANUV, is still reviewing the possibility of developing a corresponding plan for agricultural areas.

By incorporating management planning into the existing system, the writing of these plans in the neighboring regions will be an ongoing process in accord with current activities. In The Netherlands this process will require much additional effort and will be undertaken over the next three years.

In Flanders, it was originally intended to make management plans compulsory for all Natura 2000 sites. However, after drawing up six pilot schemes (Natuurrichtplannen), Flanders is now deciding to formulate management plans as an optional strategy. According to the environmental sector, the consensus based approach has led to goals being set

disappointingly low. The government agency states that it is too time-consuming to conduct these processes at every site, and that it should only be used as a tool where suitable. However, stakeholders such as the farmers unions were positive about the value of a consensus based approach to management plans.

Management strategies to ensure that adequate measures are taken

In all the regions reviewed here, privately owned sites will be managed through voluntary agreements. In Flanders, NRW, and England and Lower Saxony, those consulted advocated the use of agri-environmental and forestry schemes as tools in order to ensure adequate management for Natura 2000.

However, in Flanders the current overlap between agri-environmental schemes and Natura 2000 is limited; as is also the case in The Netherlands with schemes developed for private landowners. At present the schemes have not yet been adapted to fit the specific requirements of the habitats and species relevant to the Directives, and they might therefore be considered inadequate by the European Commission. In addition, in Flanders, one has to be registered as farmer to be eligible for the contract. There remains work to be done in order to make the schemes servicable for Natura 2000. Additionally, in Lower Saxony, it is not yet clear how the voluntary contracts will be related to the formal decree of a Natura 2000 site.

In Lower Saxony and NRW several of those consulted questioned whether the available compensations schemes would provide adequate incentive for private owners to join since, in general, compared with current agricultural prices, the amount offered per hectare is low. It is also doubtful if the current available budget will be sufficient to ensure adequate management for all areas, even if landowners are willing.

According to Article 6 of the Habitats Directive :

“For special areas of conservation, Member States shall establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans, and appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitat types in Annex I and the species in Annex II present on the sites.”

It remains to be seen whether management measures which are based on voluntary agreements will suffice to ensure the favorable conservation status of species and habitats in the Natura 2000 sites. It is also not yet known what action the European Commission will take if the voluntary approach followed by most Member States is inadequate.

Monitoring of the sites

In Flanders, a survey covering all Natura 2000 sites is planned; although often the list of species subject to monitoring is insufficiently precise. Three pilot projects are currently being developed to establish specific monitoring network systems. Results are compiled and reported in the two-year nature report (NARA) or in specific species studies or species protection plans (COM 2003).

The following measures are undertaken to establish a monitoring system:

- “overall monitoring of the distribution of habitats based on a refined methodology of the Biological Evaluation Maps” (Belgium 2008);
- monitoring programs for specific habitat groups;
- compilation of red lists for species groups;
- publication of status and distribution atlases for a number of species groups.

In England, a new common standards monitoring system for designated sites was developed in 1998. This monitoring scheme is used to monitor SPAs and SACs, as well as other

designated areas in the UK; e.g., SSSIs or Ramsar sites. The purposes of common standards monitoring are 1) to determine the effects of measures and the necessity for further action at site level, 2) to assess the effectiveness of current conservation action and investment and priorities for future action at country level and 3) to meet national and international reporting commitments and identify implementation problems at UK level. Natural England monitors whether objectives are fulfilled, and relevant authorities monitor enforcement of measures that fall within their remit under the Management Scheme. The results of the monitoring are presented every six years. The first report was published in 2006 (Williams, 2006), at which point 57% of the total features in the UK was reported on.

The LANUV is responsible for the monitoring of sites in NRW. The report to the Commission on the Favourable Conservation status is based on an inventory made in the period 1999-2001. A new monitoring system will be set up for Natura 2000. For habitats that are abundant, a sampling strategy will be developed (170 samples, each of 1x1 km) or rare habitats a targeted sampling will be used, for very rare habitats a complete inventory will be made. The methodology for the assessment of the state of habitat types has already been developed (LÖBF, 2002). The actual work will be subcontracted to bureaus specializing in these types of field research.

For the monitoring in Lower Saxony, existing monitoring systems will be used to fulfill EU obligations, but they will need to be adjusted to cover all Natura 2000 sites. Monitoring is carried out by experts and expert organizations (e.g., research field stations) which are paid for their work. In contrast with regions such as The Netherlands and England, hardly any volunteers are involved in the monitoring systems.

3.4 Societal discussion on management

Period of discussion

As a result of the difference in the timing of designation, and the variability of strategies followed regarding consultation; the period in which the most intensive management discussion took place differed amongst the regions.

- In NRW most of the discussion took place prior to the submission of the German proposal to Brussels (before 2004).
- In Flanders the authorities and stakeholders involved expect major discussions on management planning and formal designation to start in the coming years.
- In The Netherlands, most discussion occurred in 2000; when the Birds Directive sites were sent to Brussels; and also in 2007, and the beginning of 2008, at the formal designation under Dutch Law.
- In Lower Saxony, the discussions were lengthy; due to the prolonged process of site identification and designation (more than 20 years).
- In England, compared to the other study areas, discussion regarding the management of terrestrial sites has been limited: although a consultation process took place locally prior to the submission of the list to Brussels. There was much debate on the designation of coastal and marine sites.

Short characterization of the societal discussion

Netherlands

In The Netherlands several representatives of stakeholder organizations actively sought to influence the process of the implementation of Natura 2000. The discussion in The Netherlands might have been increased due to several high profile legal cases on the Birds and Habitats Directives. Most of these cases were related to the species protection part of

the two directives, but the cases generated a general feeling that they had far reaching consequences for all activities. Since only a few plans or projects were cancelled as a result of court cases, this notion - rather than actual practices - might be an important reason for much of the discussion and conflict in The Netherlands.

The formal designation of sites in The Netherlands has not yet been completed (beginning of 2008). In 2005 the Habitats Directives were properly integrated into Dutch nature conservation laws. The result was a legally obscure situation. Many conflicts were caused by a lack of knowledge about the relevant legislation. As a result of the need for clarification on the management of the areas, the Dutch Parliament made the development of management plans compulsory for all sites.

North Rhein Westphalia

In NRW representatives from the agricultural sector, forestry and hunting were actively involved in the discussion on implementation of Natura 2000 at a local and regional level. NABU, the Farmers Union, and the hunting association both provided their local members with guidance and support during this process. Three nature conservation organizations (NABU, BUND und LNU) jointly developed a tentative list to influence site selection and designation. In several cases stakeholders ordered a second opinion by hiring a consultant to review the occurrence and location of the habitats, in order to dispute the selection of certain sites or areas within the network.

A fundamental question was also raised about the degree to which nature conservation obligations would restrict private owners' use of land.

Lower Saxony

In Lower Saxony, in the early 1980s, the first sites were reported to Brussels. In 2007 the last SPAs were approved by Brussels. In addition, the process of integrating the directives into national (Bundes) law, and into Lower Saxony law, lasted till 2007. Thus the first phase of selection and designation of sites took more than 20 years. During the process, sites were reported to Brussels in several tranches, and some sites were added separately after each selection.

The long lasting process, the number of tranches, and the ecological selection criteria; which were not always presented in a clear way to all stakeholders; made some feel that they were 'being confronted by a 'salami strategy'. In addition, this feeling was strengthened by the fact most stakeholder groups were initially only involved in the selection and designation process during the 1990s.

Furthermore, politicians were not fully aware of the content of the Directives and gave misleading information about the management of sites, by stating early in the selection and designation process, that the use of Natura 2000 sites would only be subject to low level regulation. This contrasts with the strict interpretation of the decisions of the European Court of Justice by German lawyers

Flanders

In general, those consulted indicated that real discussion on the management of Natura 2000 sites had yet to start. Except for industry, which had already faced several claims for compensation, respondents indicated that the consequences of Natura 2000 were still not clear to many of the landowners and users involved. One reason for this was the fact that the conservation objectives (instandhoudingsdoelstellingen; ihds) and management measures have not yet been determined at site level. Interested parties expect that the discussions will start and conflicts become apparent when restrictions for specific areas have been specified.

Another reason is that the ongoing conflict surrounding the completion of the Ecological Network (VEN) has until now dominated people's awareness of environmental issues, and they are suspicious of Natura 2000, because they fear similar problems.

England

The designation of most SPAs and SACs did not generate a great deal of discussion in England because of the long tradition setting up SSSIs. Many people regarded it as just another label. The main discussion was about the designation of marine and coastal sites. Before the development of the Birds and Habitats Directives these sites did not receive special attention and their protection is new and difficult, because they have either many owners or none, and a great variety of different users. The management of these sites became a great challenge. Although port development has led to some conflicts, it would appear that thus far major discussions about activities that severely impact on conservation objectives seem to have been avoided (e.g., regarding fishery and large scale port development).

In 2007 the UK was condemned by the European Court of Justice because it failed to implement the Habitats directive correctly: a more strict assessment was required. It appears that the implications of European nature conservation legislation are gradually becoming obvious. In some areas this might include restrictions on current use and future developments.

4 Discussion and conclusions

4.1 Introduction

The main question that this study seeks to answer is: "What are the discussions and probable conflicts for the management of Natura 2000 sites in The Netherlands and its neighboring countries/regions, and which factors might account for the differences found between them?" This chapter tries to address this question. First it describes the different discussions and conflict for the management of Natura 2000 sites that were found in the regions. The four aspects of the analytical framework are then used to elaborate on these similarities and differences and to give some explanations for these findings. This chapter ends with the most important conclusions and lessons learned from this study.

4.2 Societal discussion on management of N2000 sites: a comparison

What were the probable conflicts for the management of Natura 2000? The societal discussions represented the most common potential sources of conflict for the management of Natura 2000 sites. The time frame in which these discussions took place differed between the regions, but there appeared to be many similarities in the main issues that were raised. In most of the regions discussion of these concerns can be grouped under the following headings:

- selection of sites and boundaries;
- land use restrictions;
- financial compensation.

Different regions showed variation in the specific topics that were discussed under these main headings or put the emphasis on different aspects of the topics.

1. Discussion on selection of sites and borders

Stakeholders in all regions expressed their disagreement with the fact that only ecological criteria were considered in the selection of sites. In Flanders, NRW, Lower Saxony and The Netherlands, discussion with stakeholders on the exact boundaries of the sites ensued. In England the designation of Natura 2000 generated very little discussion compared to the other study areas. There was criticism not only of the selection of the sites but also the *process* of selection, e.g., the stage at which stakeholders became involved in the process. Many felt that they had been excluded or were involved too late in the process.

2. Discussion on restrictions regarding current and future use for different land use types

In all the study areas there was lively debate with stakeholders, or their representatives, on the implications for existing and future land use of Natura 2000 designation. In all the areas, administrators found it difficult to outline the exact consequences of the resultant restrictions on other land uses. This led to uncertainties amongst stakeholders, which in many cases led to opposition and decreased public support.

The focus of discussion on specific types of land use differs between the regions, for example:

- In England and Lower Saxony, the existing conflict between the current use of marine and coastal areas for **fishery** has not yet been raised. In The Netherlands there has been a societal discussion on the impact of cockle-fishing in the Waddensea and, as a result, cockle-fisheries have been banned. In Lower Saxony, discussions on fisheries and possible restrictions have occurred at the local level. In Flanders, fisheries are not an important issue, because the Federal State is responsible for the North Sea.
- In NRW and Lower Saxony, the principal issue raised by representatives from the agriculture and forestry sectors is that their interests should take precedence over nature conservation objectives. This discussion is fueled by the national exclusion clause that is incorporated in the federal nature conservation law. This clause states that good agricultural, forestry and fisheries practices can not harm the interest of nature conservation (Landwirtschaftsklausel). The European Commission has ruled that Germany should make some changes to its national conservation law so that clause would no longer apply within Natura 2000 sites (Anon.).
- The societal discussion of the impact of Natura 2000 designation on recreational use of the sites, and especially on water recreation, has mostly been restricted to The Netherlands. In the other regions, like Lower Saxony and England, this discussion only occurs in some of the coastal areas.
- Restrictions on **forestry**, by private and commercial companies, were debated in Lower Saxony and NRW, due to the extensive, forested area under Natura 2000, which is currently under private management. It was marginally debated in The Netherlands, England and Flanders.
- Current use of the areas for **hunting**, and possible resulting conflict with Natura 2000, were raised by stakeholders in NRW and Lower Saxony, and less frequently in England, Flanders and The Netherlands.

3. Voluntary management schemes and financial compensation for land use restrictions

In all regions, voluntary contract based management will be an important instrument for achieving the Natura 2000 goals. In all the study areas, the financial compensation for land use restrictions resulting from Natura 2000 was raised as an issue. For example, in NRW and Lower Saxony, respondents indicated that they expected that the financial compensation for these schemes would be insufficient to cover income loss.

Another concern with regard to voluntary contract based management is the extent to which interested individuals can participate. In NRW and Lower Saxony, it is feared that not enough funds will be available to enable private owners to join the available agri-environmental schemes. In Flanders, there is also an issue with regard to participation: people who are not registered as farmers are currently excluded, the schemes have yet to become available for other land owners.

Another factor, apart from the problem of how much money is available, seems to be the general unwillingness of private landowners to join management schemes. In Lower Saxony, although all stakeholders were involved and consulted at an early stage of the implementation process, this has not led to an increased acceptance of this instrument.

However, in Flanders, the increased possibility of joining voluntary management schemes is viewed positively by land owners and land users, who had previously felt hostile towards imposed restrictions.

4.3 Public support and management: factors explaining differences and similarities

This section answers the second part of the research question namely:

What factors are likely to account for the differences found between the regions regarding potential conflicts over the management of Natura 2000 sites?"

This study shows that each region has followed a very specific strategy in the implementation of the Birds and Habitats Directives: which is to be expected, since each has its own policy style and traditions in nature conservation.

The differences found between the regions cannot be explained by one sole factor in the analytical framework. Often a combination of all four aspects can provide insight into the societal discussions in these regions, since the influence of each is often interrelated with the others. This is particularly true, for example, with the overall policy debate, the ownership and land use of the sites, and the process of designation. In each region these interrelated influences have led to specific implementation processes.

When there is insufficient communication of information and/or participation is restricted, the designation process is the most likely explanation of conflict if it coincides with:

- major private owners and land users are excluded from participation in the process;
- Nature 2000 represents a shift from established nature conservation practice;
- Nature 2000 is superimposed on existing unresolved conflicts.

The least chance of conflict occurs when the process of designating Natura 2000 sites is compatible with the land use and ownership situation or current nature conservation practice.

Furthermore the following observations can be made for each factor under review.

Biodiversity targets and policy task

The biodiversity targets are roughly comparable among the different regions. In all regions, between 6% to 12% of the land surface has been designated. All regions have a considerable policy challenge because, in general, there are more habitats and species with insufficient or adverse conservation status than those that already have the advantage of good conservation status. The biodiversity targets therefore provide little or no explanation for differences found between the regions.

Land use & ownership

In general, matters of ownership were the key issue governing the discussions that took place regarding land use in Natura 2000 sites. To a great extent they also influenced the regions' organization of the consultation process and management of the areas. When many different owners are involved, it is necessary to involve them and land users in site the management and preferably in designation. In The Netherlands, a greater area of the Natura 2000 sites is owned by the government and nature conservation organizations than in other regions, where more private land owners must be treated with in order to arrange the management of the sites.

The contrasts found in societal discussions on hunting and the recreational use of the Natura 2000 sites stem from their varying degrees of importance in the different regions and do not result from stakeholders' differing views on the issue.

With regard to agriculture, in all regions stakeholders from the farming community voiced similar concerns over land use restrictions imposed on them. The Netherlands and Flanders have a history of conflict between nature conservation and agriculture, resulting from their intensive production systems. The Birds and Habitats Directives force authorities to take action to prevent further deterioration of protected ecosystems, and nature conservation objectives are being given greater priority. As a result, the ongoing conflict between agriculture and nature conservation in The Netherlands has been intensified by these Directives.

However, the differences in discussion on fishery activities cannot be explained by its importance in the study areas. In England, The Netherlands and Lower Saxony it is a commercial activity. To date, it is only in The Netherlands that the impact of fishing has been broadly and deeply discussed and its use restricted. This is possibly due to the fact that, in The Netherlands, such discussions had already commenced prior to Natura 2000 designation, with regard to the Wadden Sea.

Designation process and participation

Different participation strategies were followed in the study areas, which influenced public support and societal discussion over Natura 2000 sites.

NRW and England invested a great deal in consultation at site level with regional and local stakeholders. In both regions this resulted in a much smoother official designation process. In an earlier study, which compared the implementation process in six European countries, Neven *et al.* (2005) point out the important role of formal (but non governmental) advisory organizations in depolarizing the implementation process e.g., in the UK and Sweden.

In England much time and effort was put into consultation with different stakeholders and the provision of information. The Thanet Coast is probably the best example, but similar approaches, though on a smaller scale, have been followed elsewhere. Intensive contact with land owners and users has led to a greater awareness of the protected features and the necessity for protection. This in turn led to a greater acceptance of measures and to joint action to improve the habitats. In the Thanet Coast, for example, the disturbance of wintering birds was greatly reduced by these awareness campaigns.

The Netherlands and Flanders did not involve individual land owners early in the process, but instead relied on consultation and discussion with governmental administrators and representatives of other land use sectors. This strategy regarding participation partly explains the lack of public awareness and support, and additionally delays potential conflicts. At a later stage of the implementation process, when official designation and site management are discussed, individual owners and users react when faced with earlier decisions. In The Netherlands, during the official process of site designation, this strategy led to a great deal of discussion on the consequences for agricultural and recreational activities in and around Natura 2000 sites.

Furthermore the strategy for nature conservation in The Netherlands was based on land acquisition by nature conservation organizations (state related and private). Compared to England and Germany, The Netherlands has limited experience of private owners managing the land by for nature conservation purposes. The fear of land use restrictions due to Natura 2000 designation increased as a result of the limited information provided to these stakeholders during the selection and designation process.

Overall nature conservation policy context

Differences among the regions with regard to public support can also partly be explained by the overall nature conservation context. There is greater potential for conflict when Natura 2000 represents a change from established practice, or in situations where nature conservation was already unpopular prior to its implementation.

It appears that in England, with its long tradition of legally protected areas and voluntary co-operation with private landowners, the impact of Natura 2000 designation was limited, because it corresponded relatively well with the existing system for terrestrial areas and thus gave rise to less debate. Wendler & Jessel show that also in France and Germany stakeholders were less likely to object when areas designated under Natura 2000 already had a prior conservation status. In addition, stakeholders were set at ease by the fact that the English government emphasized that designation under Natura 2000 would have no consequences for current land use.

In The Netherlands, in addition to a lack of experience with the management of protected sites by private land owners, there was a great difference between the system developed for Natura 2000 and the existing nature conservation system which caused apprehension amongst involved stakeholders. Previously, protection was regulated solely through the Ecological Main Structure (EHS), by way of spatial planning and financial schemes. A similar situation can be noted in Lower Saxony where although there was an existing system of protected areas, it did not meet the requirements of Natura 2000, which resulted in new claims on land for nature conservation which had not previously existed.

In general, in NRW and Lower Saxony, during the Natura 2000 designation process, a great deal of discussion was generated in which the existing view, that nature conservation is of low priority and subordinate to agriculture and forestry, clashed with the aims of Natura 2000 whose conservation goals may be given precedence over other interests.

In Flanders the resistance of stakeholders to Natura 2000 can be explained to a large extent by the fact that the ecological network that preceded Natura 2000 generated much debate and, according to respondents, resulted in many negative consequences for land use. As a result stakeholders in Flanders were alert to new nature conservation issues and wished to be involved to a greater degree than they were in the past. This process is gradually changing, since the government is more aware that it needs the cooperation of individual owners and land users in the management of Natura 2000 sites.

Many of the designated Natura 2000 sites in The Netherlands are part of the national ecological network. However, this network had a different protection status. In Flanders, many areas did not receive specific protection prior to the designation of sites. In NRW and Lower Saxony new, formerly unprotected areas came under the aegis of Natura 2000. In England many sites were already protected as SSSIs, but new sites were also added to the network. In particular the protection of marine and coastal sites was new.

In most regions nature policies and conservation laws partially complied with the Birds and Habitats Directives. However, in most regions the implementation of the directives implied stricter protection and more attention to the enforcement of these laws.

Most regions have different ways of organizing the management of natural areas which mainly depend on whether private land owners are involved in it. In The Netherlands it is mainly conservation organizations which are responsible, whereas in England many agreements are made directly with private landowners and users.

Table 4: An estimation, based on this research, regarding the match between existing nature conservation policy and that of Natura 2000. ++ = a good match between N. 2000 and previous conservation policy and practice and - = wide differences.

	The Netherlands	Flanders	Nord-Rhine Westphalia	Lower Saxony	England
Designated areas	+	-	-	-	+
Formal policies and laws	-	+	+	+	++
Roles of different organizations	+	+	+	+	++

4.4 Lessons learned

Each country had to find its own way of integrating the Birds and Habitats Directives into their policies and planning practices. It proved to be difficult for all regions and led to a variety of hitches.

- The study shows that all regions faced similar discussions with stakeholders on the consequences of designation for current and future land use. Independently from the chosen processes of implementation and stakeholder consultation there were inevitable conflicts between nature conservation and other human activities. In some cases nature conservation can have significant consequences for other land use activities, and the people who depend on them would probably disagree with having land use adapted to suit conservation. The implication is that, if nature conservation is to be taken seriously, it is essential to start a discussion about land use activities that have negative effects. This discussion can be started by nature conservation organizations and also by local or regional authorities.
- During the whole process - from the start of the new policy initiative until integration into management planning – it is vital to gain public support. Earlier studies show that on the national level an independent agency can play a key role in this process (Neven *et al*, 2005, Suda, 2005). This study shows that if land owners and users are taken serious *early* in the process they are less likely to object than if they have never been informed or consulted at all. Wendler & Jessel (2004) show in a case study that who initiates involvement is important to the ongoing policy process, as is the source of early information. This means that it is essential for the government to invest in relationships with individual land owners and users, even though this might take a considerable time. This does not mean that every member of the public must be able to participate in the planning process, but they do need to be provided with sufficient information regarding the necessity of designation and how this might affect for his or her activities. This may seem very obvious, but it rarely takes place.

- The strategy of open participation early in any policy process increases support from stakeholders and contributes to the setting of realistic targets and aids site designation. Particularly in the case of Natura 2000, adequate site management depends on individual owners and users who need to cooperate, voluntarily.
- Natura 2000 led to changes in the nature conservation policy in all regions. However, the amount of change required varied considerably between the study areas. The more new nature conservation policies resulting from Natura 2000 deviated from existing ones, the more discussion was generated. In addition, some of the changes in nature conservation policies stem from national decisions and were not based on European obligations. For example, in many of the neighbouring areas it was decided not to make new management plans obligatory, but to incorporate as much as possible into the existing planning system. In The Netherlands the decision was taken to make management plans compulsory for all Natura 2000, which entailed a great deal of effort for regional and national administrations and all involved stakeholders.
- Small scale and local issues might easily be handled by intensive consultation with all involved stakeholders, however, larger ones; such as port development and fisheries; require action and decision making at a higher political level. In The Netherlands, for example, the decision to ban cockle fishing in the Wadden Sea required a consultation process at the national level, and intervention from national and international courts.
- Besides conflicts between nature conservation and other sectors, conflicts between different environmental objectives also occur. The relation between European and national conservation objectives and regional or even local ones always leads to discussion. There are no conclusive answers as to what to protect and where. The European directives focus on habitats and species that are endangered at the EU level, but many conservationists have different ideas about what to protect. There is a potential conflict between the static approach adopted in the BHD; which requires conservation of specific species and ecosystems in specific areas; and the dynamics of ecosystems. This leads to discussions about potential conflicts between, for instance, dynamic forest management (The Netherlands) and coastal areas (England), and management which focus on the protection of one specific type of ecosystem.

References

The References provided in this list are of main text and annexes.

- Aarts N., 1998. Een kwestie van natuur: een studie naar de aard en het verloop van communicatie over natuur en natuurbeleid. Doctoral thesis, Wageningen Agricultural University.
- Backes, Ch. W., A.A. Freriks & A.G.A. Nijmeijer, 2006. Article 6 Habitats Directive – A comparative law study on the implementation of art. 6 Habitats Directive in some member states. Centrum voor Omgevingsrecht en Beleid/NILOS/M. Walraven.
- Barrett, S.M., 2004. Implementation studies: time for a revival? Personal reflections on 20 years of implementation studies. *Public Administration* 82 (2), pp. 249 – 262.
- Barton, P.M. & G.P. Buckley, 1983. The Status and Protection of Notified Sites of Special Scientific Interest in South-East England. *Biological Conservation* (27): 231-242.
- Belgium, 2008. Habitats Directive: report on implementation measures (18 January 2008). <http://cde.eionet.europa.eu>
- Beunen, R., 2006. Nature conservation legislation & spatial planning: for better or for worse? *Journal of Environmental Planning and Management*. 49 (4): 607-621.
- Bruyn, L. de en D. Paelinckx, 2007a. Habitats van de habitatrichtlijn. Natuurrapport. 2007
- Bruyn, L. de en D. Paelinckx, 2007b. Soorten van de habitatrichtlijn. Natuurrapport 2007
- Chilla, 2005. EU-Richtlinie Fauna-Flora-Habitat: Umsetzungsprobleme und Erklärungsansätze. *DISP* 163 (4): 28-35.
- Coffey, C. & S. Richartz, 2003. The EU Habitats Directive: generating strong responses. Project Deliverable No. D 17. Institute for European Environmental Policy, London.
- COM, 2003. Summary of national report; Belgium. Report from the Commission on the Implementation of the Directive 92/43/EEC on the conservation of natural habitats of wild fauna and flora
- Cornips, J., 2006. De invloed van burgers in interactieve ontwikkelingsprocessen. *Beleids-wetenschap* 2006, nr. 1 , p. 47-62
- Cox. C., P. Lowe, & M. Winter, 1986. Agriculture and Conservation in Britain: A Policy Community under Siege. In: Cox, C., Lowe, P. and M. Winter (eds.) *Agriculture: People and Policies*. Allen and Unwin: London.
- D'Hond, S., 2005-2006. Coördinatie tussen ruimtelijke ordening en natuurbeleid in Vlaanderen, case study: het RSV en het VEN-VON. Scriptie voorgelegd aan de Faculteit Sociale Wetenschappen, voor het behalen van de graad van Licentiaat in de Politieke Wetenschappen. Academiejear: 2005-2006. Katholieke Universiteit Leuven

- De Santa, E.M. & P.J.S. Jones, 2007. Offshore marine conservation policies in the North East Atlantic: Emerging tensions and opportunities. *Marine Policy* 31: 336-347.
- Decler *et al.*, 2007. Natura 2000 in Vlaanderen. Uitdagingen voor de toekomst/ In De levende natuur jaargang 106, nr. 6, p. 266-269
- Defra, 2001. First report by the United Kingdom under Article 17 on implementation of the Directive from June 1994 to December 2000. Department for Environment, Food and Rural Affairs, Bristol.
- Defra, 2003. Sites of Special Scientific Interest: Encouraging positive partnerships. Code of guidance. Department for Environment, Food and Rural Affairs, London.
- Defra, 2007. Changes to Habitat Regulations and new Offshore Marine Conservation Regulations. Ref: 224/07. Date: 20 July 2007.
- Diemitrova, A. & Steunenbergh, B., 2000. The Search for Convergence of National Policies in the European Union. An Impossible Quest? *European Union Politics* 1 (2): 201-226.
- Dimitrakopoulos, D., Richardson, J., 2001. Implementing EU public policy. In: Richardson, 2001. *European Union: Power and Policy-Making*. Routledge, London.
- Edelenbos, J & R . Monnikhof (red.), 2001. Lokale interactieve beleidsvorming. Lemma BV, Utrecht.
- European Union's Habitats Directive.
- Fairbrass, J. & Jordan, A., 2001. European Union Environmental Policy and the UK Government: A Passive Observer or a Strategic Manager? *Environmental Politics* 10 (2): 1-21.
- Fairbrass, J. . 2000. EU and British biodiversity policy: ambiguity and errors of judgement. CSERGE Working Paper, GEC 2000-04.
- Francis, J.M., 1994. Nature Conservation and the Voluntary Principle. *Environmental Values* 3: 267-271
- Garner, R., 2002. *Environmental Politics: Britain, Europe and the global environment*. 2nd edition. Macmillan, Basingstoke
- Héritier, A., 1996. The Accommodation of Diversity in European Policy Making and its Outcomes: Regulatory Policy as Patchwork. EUI Working Papers, 96: 2 European University Institute.
- Heutz , G. & D. Paelinckx (red), 2005. Natura 2000 habitats: doelen en staat van instandhouding. versie 1.0 (ontwerp. Onderzoeksinstituut voor natuurbehoud, Afdeling Natuur IN.O.2003.03, Brussel
- Hiedanpää, J., 2002. European-wide conservation versus local well-being: the reception of the Natura 2000. Reserve Network in Kaarvia, SW-Finland, *Landscape & Urban Planning*, 61, pp. 113 – 123.

- Hill, M. & Hupe, P., 2003. The Multi-layer Problem in Implementation Research. *Public Management Reviews* 5 (4): 471-490.
- Hix, S., 2005. *The Political System of the European Union*. Palgrave Macmillan, Basingstoke
- Holdaway, E. & H. Holdaway, 2001. *Making the Habitats Directive Work*. A report to WWF-UK based on four workshops held in England, Northern Ireland, Scotland and Wales in 1999.
- Jones, P.J.S., J. Burgess & D. Bhattachary, 2001. An evaluation of approaches for promoting relevant authority and stakeholder participation in European Marine Sites in the UK. English Nature (UK Marine SACs Project).
- Joint Nature Conservation Committee, 2007. *Second Report by the UK under Article 17 on the implementation of the Habitats Directive from January 2001 to December 2006*. Peterborough: JNCC. Available from: www.jncc.gov.uk/article17.
- Knill, C., & Lenchow, A., 1998. Coping with Europe: The Impact of British and German Administrations on the Implementation of EU Environmental Policy. *Journal of European Public Policy* 5: 595-615.
- Laffan, B., 2004. *Multilevel governance: Bears, Birds and Bogs: The Implementation of EU Nature Conservation Policy in Six States*. Dublin European Institute, University College Dublin, Dublin.
- LANUV, 2006. FFH- Statistik
- LANUV, 2007a. Erhaltungszustand der Anhang II und IV-Arten
- LANUV, 2007b. Bewertung Erhaltungszustand der Anhang I - Lebensraumtypen
- Ledoux, L., Crooks, S., Jordan, A. & Kerry Turner, R. ,2000. Implementing EU biodiversity policy: UK experiences. *Land Use Policy* 17, pp. 257-268.
- Lee, M., 2001. Coastal defence and the Habitats Directive: predictions of habitat change in England and Wales. *The Geographical Journal* 167(1): pp. 39-56.
- Litjens, B.P. E.A., 2000. De structuur van beleidsnetwerken. Samenwerking en autonomie vanuit de sociale netwerkanalyse, In: *Blad Bestuurskunde*, jaargang 9 nr. 3, pp. 141-150
- LNV, 2006a. *Handreiking Beheerplannen– Natura 2000-gebieden*. Ministerie van Landbouw, Natuur en Voedselkwaliteit, 's-Gravenhage.
- LNV, 2006b. *Natura 2000 doelendocument*. Ministerie van Landbouw, Natuur en Voedselkwaliteit, Den Haag.
- LNV, 2007. *Nota van Antwoord. Inspraakprocedure aanwijzing Natura 2000 gebieden*. Ministerie van Landbouw, Natuur en Voedselkwaliteit, 's-Gravenhage.
- LÖBF, 2002. *Anleitung zur Bewertung des Erhaltungszustandes von FFH-Lebensraumtypen*. (Stand: Juni 2004)

- LÖBF, 2004a. Arbeitsanleitung für die Erstellung von Sofortmassnahmenkonzepten für Natura 2000 Gebiete im Wald.
- LÖBF, 2004b. Lebensräume und Arten der FFH-Richtlinie in NRW. Beeinträchtigungen, Erhaltungs- und Entwicklungsmaßnahmen, Bewertung des Erhaltungszustandes. Natura 2000 als Daueraufgabe (Umlauf 23)
- Lowe, P. & Ward, S. (eds.), 1998. British Environmental Policy and Europe. Politics and Policy in Transition. Routledge, London.
- Mazmanian, D.A., Sabatier, P.A., 1983. Implementation and Public Policy, Glenview, IL: Scott, Foresman and Co.
- McLeod, CR, Yeo, M, Brown, AE, Burn, AJ, Hopkins, JJ, & Way, SF (eds.), 2005. The Habitats Directive: selection of Special Areas of Conservation in the UK. 2nd edn. Joint Nature Conservation Committee, Peterborough. www.jncc.gov.uk/SACselection
- Metz, T., 1998. Nieuwe natuur : reportages over veranderend landschap. Ambo, Amsterdam.
- Miller, C., 1997. Attributing 'priority' to habitats. Environmental Values 6(3): 341-353.
- Ministry of Agriculture, Nature and Food Quality, 1990. Nature Policy Plan. Ministry of Agriculture, Nature and Food Quality, The Hague.
- MNP, 2005. Natuurbalans 2005. Milieu- en Natuurplanbureau. Sdu Uitgevers, Den Haag.
- Morris, R., Hill, M., Moffat, A. & Ramsay, K., 2005. The selection of Natura 2000 sites in England and Wales, with particular reference to the Severn Estuary. Journal of Marine Science and Environment C3. 29-35.
- Morris, R., 2001. Ports and the Habitats Directive: A UK perspective of port-related dredging. English Nature, Peterborough.
- Morris, R.K.A. & Gibson, C. , 2007. Port development and nature conservation – Experiences in England between 1994 and 2005. Ocean & Coastal Management 50 (5-6): p. 443-462.
- Natura 2000 Barometer, EC. 2007.
- Natural England, 2006. Strategic Direction 2006-2009.
- Neven, M.G.G. & F.H. Kistenkas, R.C. van Apeldoorn & R.C. Schröder, 2005. Eurosites Insights. Image, implementation, interpretation and integration of Natura2000 in European perspective. Alterra-rapport 1222.1. Alterra, Wageningen.
- Paavola, J., 2004. Protected Areas Governance and Justice: Theory and the Hiedanpää, J. (2002) European-wide conservation versus local well-being: the reception of the Natura 2000 Reserve Network in Kaarvia, SW-Finland. Landscape & Urban Planning 61 pp. 113-123.
- Pelk, M., C. Aggenbach, P. Schipper, F. van den Brink, I. Schimmel en K. Decler, 2007. Natura 2000 in Nederland en Vlaanderen: goed op weg naar duurzame instandhouding? In: De levende natuur, jaargang 108, nr. 6

- Pound, D. , 2004. From Conflict to Cooperation. Thanet Coast and Natura 2000. Dialogue Matters, Kent.
- Reeth, W. van, C. Wils,. A. Schneiders en L. de Bruyn , 2007. Habitatrichtlijn. Natuurrapport 2007
- Reid, C.T., 1997. Nature Conservation Law. In Holder, J. (ed.) The impact of EC Environmental Law in the United Kingdom. John Wiley & Sons Inc, Chichester.
- Reid, C.T. , 2002. Nature Conservation Law (2nd edition), Green, Edinburgh.
- Reid, C.T., 2006. Implementing EC Conservation Law. Journal of Environmental Law. 18(1): 135-160.
- Rientjes S., 2002. Making nature conservation modern: an analysis of developments in nature conservation policy in relation to macro-social changes - The Netherlands as a case study. Journal of Environmental Policy and Planning 4 (1) pp 1 – 21.
- Rijnveld, M. en J.F.M. Koppenjan, 1997 . Draagvlakvorming bij grote projecten. De Hoge-snelheidslijn zuid. In: Blad Bestuurskunde (1997) 6-3 (94-107).
- Rootes, C. 2007. Nature Protection Organisations in England. Centre for the Study of Social and Political Movement. Working Paper 1/2007, University of Kent, Canterbury.
- Schofield, J., 2001. Time for a revival? Public policy implementation: a review of the literature and an agenda for future research. International Journal of Management Reviews 3 (3), pp. 245-263.
- Scholl, B. & Chilla, T., 2005. Competing policy ideas and the implementation of European environmental policy. Discursive constructions of 'Nature' and 'Space' within the multi-level implementation process of the EU Habitats Directive. 3rd ECPR-Conference, Budapest, 8-10 September 2005.
- Smits, M.J., M.J. Bogaardt, D. Eaton, P. Roza en T. Selnes, 2008. Tussen de bomen het geld zien : Programma Beheer en vergelijkbare regelingen in het buitenland (een quick-scan) WOt-werkdocument 84. Wettelijke Onderzoekstaken Natuur & Milieu, Wageningen
- Suda, M. A. Sauer, F. Luz, G. Dettweiler & R. Beck, 2005. FFH-Schlüssel zur Kooperation oder Motor von Konflikten?BfN-Skripten 159.
- Terpstra, J. & Havinga, T., 2001. Implementation between tradition and management: structuration and styles of implementation, Law and Policy, 23(1), pp. 95 – 116.
- The Conservation (Natural Habitats, &c.) Regulations, 1994. Statutory Instrument 1994 No. 2716.
- Tweede Kamer (2002-2003) Dossier 28600 XIV nr. 128, 22-4-2003.
- Umsetzung Natura 2000 in Nordrhein-Westfalen – ein überblick (Präsentation)
- Van Apeldoorn, R.C., 2005. Working with biodiversity goals in European directives. A comparison of the implementation of the Birds and Habitats Directives and the Water

- Framework Directive in The Netherlands, Belgium, France and Germany. Working document 77. Statutory Research Tasks Unit for Nature & the Environment, Wageningen The Netherlands.
- Van Dam, M.J.E.M., J. Berveling, G.H.J.M. Neelen & A.C. Wille, 1996. Draagvlak gezocht. Beslissingen over veranderingen in het binnenlands bestuur. in: Blad Bestuurskunde, jg5, nr7, pp.317-329.
- Van Loon, A., Coesel, M., Luiten van Zanden, J., 1996. De eeuw van Thijsse: 100 jaar natuurbeleving en natuurbescherming. Heimans en Thijsse Stichting, Amsterdam
- Van der Windt H., 1995. En dan: wat is natuur nog in dit land? Natuurbescherming in Nederland 1880-1990. Amsterdam: Boom
- Van den Bosch F., 2007. Draagvlak voor het Natura 2000 gebiedenbeleid – Onder relevante betrokkenen op regionaal niveau. WOt-werkdocument 55. Wettelijke Onderzoekstaken Natuur & Milieu, Wageningen
- Van Veen, M.P. & I.M. Bouwma, 2007. Perspectieven voor de Vogel- en Habitatrichtlijnen in Nederland. MNP-rapport 500409001. Milieu- en Natuurplanbureau, Bilthoven
- Weber, N., & Christophersen, T., 2002. The influence of non-governmental organisations on the creation of Natura 2000 during the European Policy process. Forest Policy and Economics 4, pp. 1-12.
- Wendler W. & B. Jessel, 2004. Anwendung und Akzeptanz der FFH-Richtlinie in Deutschland und Frankreich. Naturschutz und Landschaftsplanung 36 (11).
- Williams, J.M., (ed.), 2006. Common Standards Monitoring for Designated Sites: First Six Year Report. JNCC, Peterborough
- WWF, 2001. A Race to Protect Europe's Natural Heritage. European snapshot report on the status of implementation of the Habitats Directive. WWF European Policy Office, Brussels.
- WWF, 2005. An overview of marine protected areas in the UK. A briefing paper by WWF-UK.
- WWF, 2006. Natura 2000 in Europe. An NGO assessment. Implementation status of the Habitats Directive in the EU-25 Member States, Bulgaria, Romania, Croatia and Turkey. WWF, Budapest.
- Zaldelhof, E., 2008. Nature policy in Flanders. Messy participation or Unfavorable circumstances? In: Keulartz. J. and G. Leistra (eds). Legitimacy in European nature Conservation policy. Case studies in multi level governance. 205-207. Springer 2008.

Websites

- www.nrwbiostationen-nrw.org
<http://www.naturschutz-fachinformationssysteme-nrw.de/natura2000-netzwerk/>
<http://www.lanuv.nrw.de/>
<http://www.umwelt.nrw.de/>
<http://www.wald-und-holz.nrw.de/>

Annex 1 Overview of interviewed or consulted persons

We are grateful to all people who kindly agreed to be interviewed and wish to thank especially Mrs. Chudleigh for her critical review of an earlier version of the description of England, and Mr. Schäpers and Mrs. Marckmann for reviewing an earlier version of the description of North-Rhine Westphalia.

Flanders

- Kurt Sannen, ANB - interview
- Ton Lammaer, INBO- interview
- Fons Beyers, Boerenbond- interview
- Peter Seymens, Natuurpunt- interview
- Tom Anthonis, Landelijk Vlaanderen- interview
- Mia Lammers, Toerisme Vlaanderen - interview
- Jan Spaas, Hoge Bos Raad – telephone
- J. Schrijvers, Hubertus Vereniging Vlaanderen – telephone

England

- Tony Child & Naomi Biggs - Thanet Coast Project
- Ingrid Chudleigh – Natural England
- Mike Humber – Coastal engineer Thanet District Council
- Terry Willard – Birchington Angling Sea Society
- Will Wright – Kent and Essex Fisheries Committee
- Steve Trotter – New Forest National Park Authority
- David Bullock - Head of Nature Conservation National Trust
- Lucy Cordrey - Nature conservation technician, National Trust
- E-mail correspondence with Andrea Graham & John Archer of the National Farmers Union.

North-Rhine Westphalia

- Herr Schäpers – Landesamt für Natur, Umwelt und Verbraucherschutz Nordrhein-Westfalen (LANUV)
- Herr Jünemann und Frau Marckmann - Wald und Holz. NORTH- RHINE Westphalia., Fachbereich VI - Waldökologie, Forschung u. Entwicklung
- Herr Gering, Westfälischen Wirtschaftsverband (no interview – reaction to interview questions by mail)
- Herr Klar, Landesjagdverband Nordrhein-Westfalen
- Frau Beckers, NABU

Lower Saxony

- H. Schleppe - Landesbauernverband e.V. (Landvolk Niedersachsen)
- N. Leben und S. Hartig - Waldbesitzerverband Hannover e. V.
- J. Romanowski - Landwirtschaftskammer
- M. Richter - Naturschutzring Dümmer:
- J. Rolauf - Zentralverbund Jagtgenossenschaften (Jagtverpächter)
- J. Daniels, C. Jäger - Landkreis Diepholz:
- H. Belting - Niedersächsischer Landesbetrieb für Wasserwirtschaft, Küsten- und Naturschutz:

Annex 2 Descriptions of the researched areas

The Netherlands

Raoul Beunen & Dana Kamphorst

Overall policy context

The Netherlands have a long history of nature conservation (Van der Windt, 1995; Van Loon *et al.*, 1996). The first Conservation Acts date from the late 19th and early 20th centuries, when various people began to encourage awareness of the beauty of nature. It was around this time that organisations such as societies for the protection of animals and birds were founded. The purchasing of land with a high conservation value began in the early 20th century, and the first site to become devoted to nature was the Naardermeer. This area had been earmarked as a waste dump, and in order to protect it Natuurmonumenten decided to buy it.

In the first half of the century many natural areas were cultivated for agricultural use. These include peat bogs and moorlands. Nature conservationists expressed their concerns and presented a list of areas that deserved protection. With the agricultural mechanisation that started after World War II natural features became further damaged. Due to land consolidation and the large scale introduction of pesticides, the natural values of the cultural landscapes degraded rapidly. During that time conservation was not a priority issue for the government, and it was mainly focused on the protection of areas of scientific interest (Rientjes, 2002). Management was necessary in many of these areas in order to preserve vegetation cover that was often a result of human intervention in the landscape.

In the 1960s and 70s the awareness of environmental issues grew, and nature conservation gained more attention. In 1967 the Nature Conservation Act (Natuurbeschermingswet) was drawn up, to conserve both habitats and species. At that the end of the 1970s the Dutch Government presented ambitious plans to protect National Parks and landscapes. However, the implementation of these policies was problematic.

At the end of the 1970s, a new generation of ecologists started to criticise the small-scale, vegetation oriented approach that had dominated Dutch nature conservation (Rientjes, 2002). They pleaded for the protection of large ecosystems that did not need human management. Their concept of primal nature gained more attention after an area of reclaimed land spontaneously developed into a wetland ecosystem. This area, the Oostvaardersplassen is now a wetland of international importance. Several ecologist and conservationist used this example of spontaneous development of ecosystems to demand a more proactive approach to nature conservation. Landscape architects and ecologist combined in a view of self-regulating nature, and presented an ambitious plan for the creation of new wilderness along the rivers. These revolutionary ideas caused considerable discussion, but during the years an increasing number of nature development projects were started to created new natural environments (Van der Windt, 1995; Metz, 1998).

In the early 1990s a new nature policy was presented by the Dutch government (Ministry of Agriculture, Nature and Food Quality (ANF), 1990). Its most important objective was the creation of a coherent ecological network, the EHS. The National Ecological Network

comprises three features: core areas, nature development areas and ecological corridors (Ministry of Agriculture, Nature and Food Quality, 1990). The acquisition of land by the state was an important strategy for achieving this network in The Netherlands. In addition, various nature conservation organisations sought to enlarge their own holdings by buying adjacent lands or new areas. The latter were then turned into “new nature”. As a result these methods much of the land with high nature conservation values is owned by the state or by nature conservation organisations. Recently the acquisition of new areas has become difficult, and there is increased political interest in persuading private owners to manage their property sensitively, with a view to increasing nature conservation values.

The creation of ecologically sound natural environments by restoration activities is still an important objective of the Dutch nature policy, but focussing on that aspect led to the protection of existing natural sites receiving less attention. A contributory factor may have been that many areas were already owned by nature conservation organisations. This changed when nature conservation organisations successfully applied to the Birds and Habitats Directives to protest against the construction of business parks and roads. With the implementation of the European Directives, attention reverted to the long-term conflict of urban development and agriculture versus nature conservation.

The negative effect of agricultural use on nature and landscape became obvious with the cultivation methods that were adopted in the first half of the 20th century and the large-scale land consolidation that started after World War II (Van Loon *et al.*, 1996). The main strategy for avoiding these negative effects was a spatial separation of nature and agriculture.

There is a long history of conflict with agricultural use. The main issues are nutrient deposition and lowering of the water table. The implementation of the Nature Policy Plan, which is explicitly based on farmers’ voluntarily cooperation (Aarts, 1998), was made more difficult by these conflicts and the troubled relationship that exists between farmers and the government with regard to conservation policy.

The requirements of the Habitats Directive were incorporated into two separate conservation acts. The protection of species is regulated by the Species Conservation Act of 2002 (protection of species, including Annex IV HD and annex I BD). The Nature Conservation Act of 1998, which was updated in 2005, deals with the protection of Natura 2000 sites and sites of national importance.

Plans and projects that are likely to have a significant effect on a site shall be subject to appropriate assessment of their implications for the site’s conservation objectives (EEC 1992, art. 6). The process of adapting the Nature Conservation Act to the HDB started in 1998. The amended 1998 Nature Conservation Act, which defined appropriate assessment (Article 19j), came into force in October 2005 (Neven et al. 2005)

The Provinces are responsible for the licensing procedure for a large number of sites. Since the 1998 Nature Conservation Act came into force in 2005, it is apparent that, in practice, stages two and three of the appropriate assessment are ignored in order to expedite the fulfillment of plans.

For a long time the Dutch Government considered that the Birds and Habitats Directive would not require significant changes to Dutch nature conservation policies. However, following many law suits; mostly related to species protection; the legal aspects of the nature conservation acts came to the forefront. This caused growing resentment of nature conservation, with various actors in opposition to each other, instead of seeking compromise.

Conservation objectives Natura 2000

The Netherlands was required to designate Natura 2000 sites for 35 species and 52 habitats included in the Habitats Directive, 44 species from Annex 1 of the Birds Directive, and 62 species of migrating water birds from the Birds Directive. Under the Birds Directive 79 sites were identified, under the Habitats Directive a total of 141 sites were identified. In The Netherlands a total of 162 Natura 2000 sites will be designated under national law.

Table A.1 gives the details of surface area that is protected. Table A.2 gives information on the size of areas designated.

Table A.1: Surface protected as Natura 2000 site in The Netherlands

	Area (ha)	%
Land and small water bodies	316,660	9% land area
Coastal areas , rivers and large water bodies	798,825	Almost all large water bodies and main rivers. Around 65% of the coastal area.
Total	1.115,485	13% of the area of The Netherlands (including large water bodies, rivers etc.)

Table: A.2 Size of areas designated

From	To	Class (ha)	Number of areas
<3		<3 ha	29
3	30	3-30 ha	33
30	100	30-100 ha	97
100	300	100-300 ha	65
300	1,000	300-1,000 ha	55
1,000	3,000	1,000-3,000 ha	32
3,000	10,000	3,000-10,000 ha	25
	>10,000	> 10,000 ha	8
Total areas			344

The current land use in and around the areas

Most of the designated Natura 2000 sites consist of inland wetlands and coastal areas. Of the terrestrial area almost 70 % is forest and semi-natural areas. About 30 % of the Natura 2000 sites comprise land under agricultural cultivation. In an area of 500 meters surrounding the Natura 2000 sites, about 8 % is forest and semi-natural areas (see Figure 6- main report)

Ownership of the areas

The Netherlands has designated a high proportion of aquatic sites. The North Sea, estuaries and large lakes are owned by the state (Domeinen) and managed by the Ministry of Transport, Public Works and Water Management. In addition, the State Forest service and private nature conservation NGOs (Natuurmonumenten en de Landschappen) manage large parts of these sites. The management of terrestrial Natura 2000 sites is the responsibility of a variety of owners and managers.

The State Forest service, together with the private nature conservation NGOs (Natuurmonumenten en Landschappen), own and manage approximately 50% of the total terrestrial Natura 2000 sites. The Ministry of Transport, Public Works and Water Management, the Ministry of Defence and the 'waterleidingbedrijven' manage approximately 6%, 4% and 2%, and about 30% is managed by private owners.

Process of designation and stakeholder participation

In The Netherlands, proposing sites, approval and site designation were a complicated process. Designating sites under the Birds Directive was problematic in terms of meeting deadlines and including a sufficient number of sites. Between 1979 and 1990, the Dutch government designated 30 sites, and it took several warnings from the EC before 24 new sites were added. Finally, in 1998; after intervention from the European Court of Justice (ECJ); another 49 sites were designated (Neven *et al.* 2005).

In 2000 the official designation of the sites under the Birds Directive was agreed. This caused a great deal of opposition, especially from water sports enthusiasts.

Meeting the obligations of site proposals, derived from the Habitats Directive, was also tricky, and the tardiness of the Dutch Government again played a role. In 2003 the European Commission approved the Dutch proposal for sites to be designated under the Habitats Directive.

In 2003 a consultation process for the Habitats Directive was organized, prior to sending the site proposals to Brussels. During this process, nature conservation organizations, representative of stakeholder organizations, provinces and municipalities were informed of the designation and offered the chance to state their views. Around 1000 opinions were expressed, and as a result changes to the boundaries of sites were incorporated (Tweede Kamer (2002-2003) Dossier 28600 XIV nr. 128, 22-4-2003)

In January 2007 the Minister for Agriculture presented the designation of the first 111 sites under the Habitats Directive (and partly the Birds Directive). About 5000 official complaints were received, and the Ministry of ANF prepared a report detailing the views expressed (LNV, 2007).

The Ministry of Agriculture specified the favorable conservation status of the Dutch Natura 2000 sites, thereby defining the conservation goals that were to be reached in each site (LNV 2006a), which were based on ecological criteria.

The implementation process of the directives further involved their incorporation into national legislation, regarding the legal protection of sites and species. Several law suits and difficulties in carrying forward plans and projects resulting from the directives, were further problems that characterized the implementation process in The Netherlands (see Beunen 2006).

Management of Natura 2000 sites in The Netherlands

"Under the Article 6 (1) of the HD member states are to "establish the necessary conservation measures" related to the ecological requirements of the site or species for which the site has been designated. Member states are not obliged to develop management plans. When they do establish a management plan, this must be linked to the favorable Conservation Condition" (Neven *et al.* 2005).

In The Netherlands it is a legal requirement that management plans are ready three years after designation of a site (Van den Bosch 2007). Provinces are responsible for management plans of 102 sites and the Ministry of Agriculture for 60 (Veen & Bouwma, 2007).

In the management plan, the conservation goals (in terms of Favorable Conservation Status) of the site have to be worked out in detail. The management plan should propose measures for the maintenance or improvement of habitat and species. It should also present a framework for monitoring the progress of such measures (Van den Bosch 2007).

The management plan should further explain which current use or activities within the Natura 2000 site are acceptable. It should offer rules for further decision making. For users and stakeholders, the management plan should clarify which specific activities are obliged to undergo an appropriate assessment under the Nature Conservation Act of 1998. There is a requirement for owners, users and other stakeholders to be involved in the planning process and for cultural, social and economic interests to be considered (LNV 2006b).

The specific management of the sites will be determined in the management plans. It is foreseen that the costs relating to regular management will be financed through existing schemes for nature conservation, entitled Programma Beheer,

Flanders

Dana Kamphorst

Overall policy context

Belgium has been a Federal State since 1993, and consists of three regions (Brussels Capital Region, Flanders and Wallonia). Terrestrial nature conservation policy lies within the legal competence of the regions, and includes the designation of terrestrial Natura 2000 sites. The Federal State is responsible for the designation and management of the marine EU Natura 2000 sites (the area of the North sea falling under the jurisdiction of Belgium (Cliquet en Decler 2007, p. 270). The Flanders region consists of five provinces: Antwerp (Antwerpen), Limburg (Limburg), East Flanders (Oost-Vlaanderen), Flemish Brabant (Vlaams-Brabant) and West Flanders (West-Vlaanderen).

Nature policy in Flanders is relatively recent, compared to The Netherlands (d'Hont, 2005-2006). In 1973 the law on nature conservation was drafted (Wet natuurbehoud) and in 1990 the first nature policy plan (Natuurontwikkelingsplan) was published. Central to this plan was the concept of the ecological network. The predecessor of the present nature administration (Animal) was founded in 1990. From January 2006 a new Ministry became responsible for nature, the Ministry of Environment, Nature and Energy (Ministerie van Leefmilieu, Natuur en Energie; LNE). Within the Ministry, the Agency of Nature and Forest (Agentschap voor Natuur en Bos; ANB) was responsible for "execution and support of policy, sustainable management and enforcement of nature, forest, parks, and public green space in Flanders" (www.natuurenbos.be). ANB is an autonomous agency (Smits *et al*/2007).

The ecological network (Vlaams Ecologisch Netwerk; VEN) is an important concept in Flemish nature policy. It comprises a network of core areas (large natural units and nature development units) and a network of supporting zones and connecting structures (IVON) (Belgium 2008). Identification and designation of these areas was based primarily on a detailed spatial planning map that outlined the land use classes for the entire region (the Spatial Structure Plan). VEN areas must be categorized as areas with nature conservation as their primary functions, whereas IVON areas may have a different function for primary land use, such as agriculture (Natura Decree 1997). Targets were set for restructuring the land classes of the rural areas of Flanders, which were: a growth of 38.000 ha nature areas, 10,000 ha ecological corridors and 150,000 ha supporting zones (areas interweaving nature and other functions). The network was based on restrictive policy, with land owners being prohibited from undertaking certain land use activities. In Flanders in the 1990s, forceful protests occurred against the development of this ecological network, and even resulted in the resignation of a Minister. As a result the conflict over allocation of land for nature conservation purposes is a highly politicized subject. This argument over the creation of the VEN is still ongoing in Flanders. The European obligation to create a Natura 2000 network was added to these existing conflicts.

Policy targets set for Flanders (Pelk *et al* 2007)

Flanders proposed a total of 62 areas to the European Commission (24 areas under the Bird Directive and 38 areas under the Habitats Directive). The total area (minus overlap) is 163,500 hectares (12% of the Flemish land cover). Of this total 98,250 ha was designated under the Birds Directive (7.3%) and 101,900 ha was proposed under the Habitats Directive (7.5%). The number of habitat types for which Flanders proposed sites is 44 (Appendix 1); for

species it is 22 (Appendix 2). Many of the 62 Natura 2000 areas (Speciale beschermingszones; SBZs) consist of smaller areas which share one name (Pelk *et al.*, 2007). The presence of habitats from Annex I and species from Annex II was the main criterion for selection: the *effective* habitats were localized according to a detailed map (biologische waarderingskaart). "As nature is scattered in Flanders and larger areas of natural and semi natural habitats are quite rare, complexes of smaller sites were often proposed" (COM 2003). These complexes had to be representative of a specific habitat, and this strategy aimed to emphasize the ecological connection between them. Initially this had the effect of including non-natural land classes in the Natura 2000 network: such as agricultural, industrial and built up areas. Later, many of these with industrial uses and housing, were excluded by redrawing the boundaries of the proposed areas. However, much of the agricultural land remained in the designated areas. In the final selection, only 51% of the total land cover had a nature function (Pelk *et al.* 2007, p. 284).

Process of designation and stakeholder consultation

The first list of 40 special conservation areas of 70,069 ha was proposed to the EU in 1996. The EC judged that too few habitats and species were included in the proposed zones. A revised list was submitted in 2001: 38 sites covering an area of 101.891 ha were proposed by the Flemish government (Com 2003) (Vaststellingsbesluit). In 2004 the EC approved this list. The Flemish Government had to designate these areas within three months as SCIs. This redefinition is in preparation (Van Reeth *et al.* 2007, p. 3, 4).

The Institute for Nature Conservation was responsible for the process of drafting the proposed list. Landowners and stakeholders were not involved in the process. Several stakeholder representation groups were permitted to respond to the proposal: nature (Natuurpunt), agriculture (Boerenbond) and land owners (Vereniging Landelijk Vlaanderen). Private owners and individual users were not consulted.

The transposition of the Habitat Directive into national legislation took place in the Natura Decree of 21 October 1997. Projects, plans or programs are assessed in view of their potential effect on the conservation status of the habitats and species (Belgium 2008). The appropriate assessment is relevant for plans, programs and activities for which a licence is required (Natuurdecreet art. 36ter Par. 3). In particular, some industries in Flanders faced claims for compensation, making them among the first stakeholders to experience the consequences of Natura 2000 and to become aware of its effects. Because the Favourable Conservation Status had not yet been determined for every area, expert judgment was often used to assess the effect of activities and plans (Heutz en Paelincks 2005).

Other stakeholders had their first confrontation with Natura 2000 less soon. However, some sectors, such as the forestry and hunting, had to take the Birds and Habitats Directives into consideration in their management plans. The hunting sector has faced some restrictions; for example, on the permitted duration of hunting in some Birds Directive areas.

Natura 2000 entered only slowly into societal discussions, and some stakeholders said that its consequences were still not clear to many people. One reason for this was that the conservation objectives (Instand Houdings Doelstellingen; IHDs) and management measures had yet to be confirmed at site level. The consequences were still unclear to individual users and land owners, and the discussion with them has still to begin. Once the discussions start regarding the restrictions arising from the designation of specific areas, conflicts will become apparent. Another reason is that until now the Ecological Network (VEN) has dominated people's attention and the public attitude towards nature. People now have reservations and harbour suspicions that Natura 2000, will cause similar problems to VEN.

The Flemish government is working on the specification of the Favourable Conservation Status (instandhoudingsdoelstellingen; IHDs) (2007-2010). The first objectives will be specified at a region-wide level; then for each site, for which the government will declare a designation specifying its conservation objectives. The government will consult representatives of stakeholder groups, but not individual users and land owners. This process should result in support from the stakeholder representatives, who themselves have to gain the support of their followers.

Land use and management

There is a large overlap of Natura 2000 sites with human activities, such as villages, infrastructure, industry and agriculture. More than 50% of the sites are privately owned.

- Only about 12% is owned by government and nature management organizations (Van Reeth *et al.* 2007).
- According to GIS analysis of the Boerenbond there is a 48% overlap between areas designated under the Birds Directive and land in agricultural use, and in areas designated under the Habitats Directive this overlap is 28% (GIS Boerenbond)
- “Over 50% of Natura 2000 is forest and 70-80% of forests is owned by private landowners” (respondent Vereniging Landelijk Vlaanderen).
- In Flanders there are 180 recognized zones for fauna management (hunting), and almost all overlap with either Birds Directive or Habitats Directive sites.

Considering this ownership situation, it is essential to involve landowners and users with the management of Natura 2000 sites.

Natura 2000 sites are only partly situated on land that is currently designated with the function ‘nature’. In general they are located in agricultural, industrial and residential areas. “62% of the Natura 2000 areas has a spatial protection that offers enough potential for reaching the nature goals” (Decler *et al.* 2007, p. 267). Considering the previous discussion of the VEN and the Spatial Structure Plan, it will be hard to change the spatial protection regimes in rural area for the purposes of Natura 2000.

However, some stakeholders insist that land classifications need not be ‘green’ in order to implement Natura 2000. The favourable conservation status may also be reached in combinations with other land use (Table A.3).

*Table A.3: Spatial designation Natura 2000 areas (Decler *et al.* 2007, p. 267)*

Spatial designation (Bestemmingen)	VR	HR	N2000
Spatial functions that allow sustainable nature conservation (nature, military zones, agricultural areas with ecological importance, forest)	50,032	820,020	100,972
Non-green functions, with problems for sustainable conservation (agricultural, industrial and residential areas)	48,032	19,487	62,062
Total	98,065	101,607	163,034

Management and discussions

The Natura Decree (May 19 2006) stated that management plans were compulsory for every Natura 2000 site. Six pilot projects were conducted, in which consensus based management plans (Natuurrichtplan) were established with the involvement of stakeholders. These management planning processes led to the development of conservation objectives and a set of instruments and measures to achieve these objectives for each Natura 2000 site. Stakeholder groups had different opinions on the success of this participatory approach. The agricultural organizations were positive about the possibilities for involvement it gave. The nature sector felt that the consensus based approach resulted in the sights for the

environmental objectives being set disappointingly low. The government agency stated that the processes were time consuming.

Currently, the Flemish government is formulating a new resolution (Besluit IHD) in which Flanders chooses not to use management plans in the sites for which conservation objectives and management have been established. The new strategy is that Flanders will first specify the favourable conservation status for habitats and species region wide, and then set conservation objectives for each site. Management and conservation measures will be explored after the goals are set. Furthermore, rather than having a single established plan, it will be one management tool among several others.

Some stakeholders fear that the new strategy will confront them with restrictions at the management stage, because by the time decisions have to be made, the objectives will no longer be open for discussion. However; given the bad experience with the VEN; the staff of ANB are increasingly aware that Natura 2000 must be implemented and managed in conjunction with the owners and users (instead of without or despite them). The general opinion in Flanders is that Natura 2000 management will lead to less restrictive nature conservation than the VEN. Management/conservation measures, will, according to the forthcoming resolution (Besluit IHB), consist of, e.g., acquisition of land, management plans, management contracts and forest management groups.

The goal set by the government for the acquisition of land in Flanders is far less ambitious than in The Netherlands. Acquisition is undertaken by ANB, nature management organizations (such as Natuurpunt) and local governments. Natuurpunt is the largest nature management organization in Flanders. It receives subsidies for acquisition and management of sites and, of the 20,000 ha it owns, between 20-40% overlaps with Natura 2000 sites. However, other stakeholders are of the opinion that the policy of the Flemish government is very much oriented at land acquisition. They suspect that this emphasis is caused by a fear that private land owners will not be willing to deal with the restrictions imposed on land use. They feel that a change in attitude is needed, to involve owners and users more and to have greater trust in their willingness and capability.

Agri-environment measures can be used to enhance development and/or nature oriented management of grasslands, field margins, the banks of water courses, small landscape structures and hedges (Belgium 2008). Quality could also be improved by reduced or zero use of fertilizers and pesticides.

So far there is a limited overlap between environmental schemes and Natura 2000. Contract based management of sites for agriculture is only at 0.1% of HD and 0.45% of the BD areas (Decler *et al.* 2007, p. 267). In addition, there is still only a small (though growing) group of farmers who wish to combine nature management with agriculture. There is no support for Nature among most of the farmers. This is because they lost the battle about designation of land for nature or agriculture. One respondent suggested that perhaps a different process would have gained more support.

So far the subsidy schemes have not been adapted for Nature 2000 objectives. At the moment only farmers are eligible for the subsidy schemes and allowed to arrange contracts. Other land owners should perhaps be allowed to join these schemes. Private land owners and users are the most important group to involve (Perk *et al.* 2007). For example, in forests; out of the 150,000 ha of forest 103,000 ha are owned by approximately 100,000 owners. This is a difficult situation for management. Many of these owners are not eligible at present for subsidy under contract based management schemes. The respondent representing forest and estate owners felt that this situation needed to be changed. ANB is also aware of the situation and is seeking to change the eligibility criteria for these schemes.

Forest management plans are a tool for forest management. In these plans Natura 2000 is being taken into consideration if forests are situated in its sites. At this stage in the process of setting objectives for Natura 2000 (IHDs) the forest organization is involved and wants to incorporate Natura 2000 aims into its management plans. Another instrument is Forest groups: groups of forest owners who make arrangements and coordinate the management of the forest.

Public Support

In rural areas some stakeholders, such as farmers, are apprehensive. However, some are changing their attitudes towards greater participation and support for Natura 2000. The contribution of the owners' organization (Vereniging Landelijk Vlaanderen) has become more constructive and positive. The farmers' cooperative (Boerenbond) was less helpful and continues to delay implementation processes, but its members are less negative than previously. The hunting sector is not satisfied with the degree of involvement thus far, but it does have a generally supportive attitude towards Natura 2000. Hunters do not fear further restrictions on the activities, because the EU is permitting sustainable hunting practices. The hunting organization was involved in the development of criteria for sustainable hunting practice in Flanders. The forest organization sees no great restrictions on forest practices arising from Natura 2000. The stakeholders indicate that being uninvolved in the process is an important reason for being less supportive.

Monitoring of the sites

A survey covering all Natura 2000 sites is planned, although the list of species being monitored is often rather generalised. Three pilot projects are currently being developed to establish specific monitoring network systems. The results will be compiled and reported in the two-year nature report (NARA) or in specific species studies or protection plans (COM 2003).

Measures undertaken to establish a monitoring system are as follows:

- "Overall monitoring of the distribution of habitats is based on a refined methodology of the Biological Evaluation Maps" (Belgium 2008);
- monitoring programs on specific habitat groups;
- red lists for species groups;
- status and distribution atlases published for a number of species groups.

Conclusions

Potential conflicts of interest foreseen by different stakeholders have, until now, dominated much of the discussion taking place in Flanders. Only a few real clashes have occurred, over permission for specific development plans and projects. Those consulted indicated that they expected that it would only be later that the real impact of Natura 2000 would become apparent to owners and users. As a result the societal discussion is yet to come, but it is expected when the management of specific sites is being considered and organized.

Many of the practical details regarding the actual management of the sites have yet to be finalized. For example, management contracts need to be updated to conform to Natura 2000 objectives, and the eligibility criteria of the schemes need to be changed in order to enable owners who are not farmers to become involved. The government agency has chosen to concentrate on a voluntary approach for owners and users, which they expect to produce better results than the restrictions imposed when implementing the VEN. Stakeholders fear that the process presently proposed by the government - setting site-specific conservation objectives first and then organizing management afterwards - will result in land use restrictions that they will be unable to influence.

England

Raoul Beunen & Jasper de Vries

Overall policy context

The UK, including England, has a long history of nature conservation, with legislation dating back to the nineteenth century (Reid, 1997, Rootes, 2007). Conservation started with the protection of birds and plants. Nature conservation was further formalised with the creation of the Nature Conservancy in 1948, under whose authority areas could be designated as Sites of Special Scientific Interest (SSSI). One year later, in 1949, the National Parks and Access to the Countryside Act was drawn up. This Act designated areas of Outstanding Natural Beauty and National Parks. In 1981 the Wildlife and Countryside Act was drawn up to improve nature conservation to meet European levels of protection and to implement the Birds Directive. This Act introduced legislation to address species protection and habitat loss.

The Nature Conservancy was founded in 1948 and became the Nature Conservancy Council in 1972. In 1990 this organisation was split into English Nature, Scottish Natural Heritage, the Countryside Council for Wales, the Environmental & Heritage Service in Northern Ireland, and the Joint Nature Conservation Committee (JNCC), which is a smaller body that oversees the four other agencies. The JNCC is the Government's statutory scientific adviser on UK and international nature conservation. Its work contributes to the maintenance and enrichment of biological diversity, conservation of geological features and sustainment of natural systems. The JNCC coordinates the UK and international responsibilities of the nature conservation agencies of the four regions. In 2001 the Department of the Environment, Food and Rural Affairs (DEFRA) was created. This department has statutory responsibilities for nature conservation in the United Kingdom.

English Nature was integrated with parts of both the Rural Development Service and the Countryside Agency in 2006 to become Natural England, thus merging conservation and amenity functions and complementing the Environment Agency and the Forestry Commission. Currently Natural England has nine regions with different local offices in the counties.

As a result of the various nature conservation Acts, Natural England and its predecessors identified areas of land of special interest and created nature reserves (Garner 2002) and SSSIs, covering about 7% of England by 2000 (ibid.). The Nature Conservancy Council had to notify owners and occupiers of SSSIs and Local Planning Authorities. The degree of protection was limited due to weak legislation, and the SSSI status often failed to prevent damage by farming, urban development and forestry (Barton & Buckley, 1983). The SSSI notification system was time consuming and demanding because the process of negotiating the Management Agreements was slow and complex: over 30, 000 landowners had to be consulted concerning more than 4, 000 SSSIs. This mechanism was a product of the voluntary approach favoured by the British Government.

During the twentieth century, nature conservation policy was dominated by the tightly bound agricultural community of interest at the Ministry for Agriculture, Fisheries and Food and the National Farmers' Union (Cox *et al*, 1986; Fairbrass & Jordan, 2001). The general assumption was that agriculture and forestry were compatible with nature conservation objectives. Farmers were seen as the ones who could take care of the countryside. The exemption of

agriculture from land-use planning controls introduced in 1947, not only confirmed, but greatly strengthened the policy community's immunity from environmental policy control. When conservation policies were adopted they enshrined what could be termed 'the voluntary principle' (Francis, 1994), which stated that farmers could be encouraged to protect biodiversity, but these policies did not include means of prohibiting land use change. In 1992 nature conservation protection for SSSIs was increased. With stricter conservation Acts, local planning authorities had to consult the conservation agencies about planning applications likely to affect a SSSI. This was done to ensure that nature conservation interests were taken into account before the development of a site.

The UK government approved the Birds Directive with little hesitation because they believed it had no consequences for existing British policies (Lowe & Ward, 1998), which the Department of Environment believed were already meeting the European Birds Directive (Fairbrass, 2000). In 1981 the British government adopted the Wildlife and Countryside Act to achieve formal compliance with the Birds Directive. SSSIs were designated to protect Special Protection Areas (SPAs) and management agreements were introduced (Fairbrass, 2000). Although laws were adapted, the implementation of the Birds Directive faced criticism from nature conservation organisations. The Royal Society for the Protection of Birds, for example, was critical because the UK government was slow, came up with a minimal list of important sites, and failed to protect habitats and species. In 1983 the European Commission took legal actions against every Member State because they had failed to implement the Birds Directive. Tensions and conflicts between conservation organisations and other actors emerged during the 1980s as the British government began to recognise some of the unwelcome implications of the EU measures that it had adopted (Ledoux *et al.*, 2000; Miller, 1997).

With the experiences of the Birds Directive in mind the UK was more reserved about the approval of the Habitats Directive (Fairbrass, 2000). Nevertheless the authorities quickly started with its implementation after the EU formally adopted it in 1992. The 1994 the Conservation Regulations (Natural Habitats & c.) were used integrate the Habitats Directive into British law. In 1999, 340 candidate Special Areas of Conservation (SACs) were submitted and in the following year additional sites were proposed. The designation of SACs was problematic for land under intensive agriculture and for marine sites (Fairbrass, 2000; Fairbrass & Jordan, 2001). Prior to the 1994 implementation, provision for conservation of the marine environment in the UK was limited (Morris, 2005; WWF, 2005). The UK faced legal action from nature conservation organisations, like Greenpeace, and from the European Court of Justice. This led to some minor adaptations of the Habitats Regulations. The last time the UK was condemned by the European Court of Justice because it failed to implement the Habitats Directive correctly was in 2007. This led to some changes being made to the Habitats Regulations, which meant that a wider range of circumstances had to be considered with regard to the presence of protected species and their breeding sites or resting places (Reid, 2006). At the same time the new Offshore Marine Conservation Regulations will extend protection for marine species, wild birds and habitats up to 200 nautical miles out (Defra, 2007).

Only a few cases led to legal action in court (Backes *et al.*, 2006). The main discussion focused on the designation of sites and on tension between port development and nature conservation (see, e.g., Morris & Gibson, 2007).

Conservation objective Natura 2000

236 SACs and 81 SPAs have been designated in England. The total acreage of SACs is 927,174. SPAs account for 953,459 ha. A few sites lie on the borders with Scotland or Wales.

Many of these SACs and SPAs are in fact groups of geographically discrete units and in such cases different areas have been designated under the same name; (sometimes as many as 172). Mostly these groups support the same habitats or species, but a few also contain different habitats.

England's SACs cover marine as well as terrestrial sites. Marine areas are not normally notified as Sites of Special Scientific Interest (SSSIs), except for intertidal belts and estuaries. Instead the various maritime authorities must cooperate to ensure that activities under their control are managed appropriately.

SACs have been designated for 78 habitat types and 61 species in the whole UK. SPAs have been designated for 103 bird species.

Land use and management

The analysis of the land use in and around the designated areas shows that England has designated many forest and semi-natural areas, inland wetlands, and some pastures. The analysis shows that urban areas, arable land and permanent crops can be found in the vicinity of designated areas, but with only a small part included in the designation (see figure 5, main report).

The analysis shows that the direct vicinity of the designated areas mainly consists of pastures, arable land, forest and semi natural areas, and the North Sea. About 10% of the vicinity is urban (see figure 6 main report).

Ownership

Much of the land is in private ownership. In England 35% of the area covered by SACs is owned by voluntary organisations, Natural England, local authorities, Forest Enterprise and the Ministry of Defence, with the expectation that it will be managed properly. Of the remaining 65% in private or commercial ownership, 25% has some form of management arrangement and 40% none at all (Holdaway & Holdaway, 2001).

The land in some areas, such as national parks, is owned by conservation organisations or by the crown and is used by local farmers. They have historical rights to use these lands to graze their cattle. Such land is called commonage or a common and the users are called the commons. In some areas this agricultural use has led to overgrazing or too much drainage.

Management

Organisations in England differ between SPAs, SACs and EU Marine Sites (this is more important than the overall Natura 2000 approach). Each type of site has a different management scheme, but there are no compulsory management plans.

People who own land that is designated as SPA, SAC, or SSSI can participate in Environmental Stewardships. Natural England coordinates these stewardships. Land owners can choose between different high or low level schemes which are made by mutual agreement and are owner specific.

Natural England has for each area made list of activities that might affect protected species or habitats and these activities require a consent from Natural England. The list is handed out to the owners as part of the management schemes. Again, these lists are specific to each landowner. If a landowner (including local governments) wants to undertake such an activity he or she should contact Natural England.

Local planning authorities have to consult Natural England about planning applications on land near to and likely to affect a Natura 2000 site. This must ensure that the nature conservation interest is taken fully into account before development, or a change in management practice which would cause damage, is permitted. Contrary to some other regions there were only a few law suits related to the Birds and Habitats Directives in England (Backes *et al.*, 2006). The only projects that were brought to court were port developments. Natural England has to advise relevant authorities about the conservation objectives for the Marine Protected areas and about operations which may cause damage or disturbance (Defra, 2001).

Terrestrial policies are underpinned by private property rights which enable the nature conservations agencies to enforce statutory management agreements on specific owner/occupiers, restrict the activities of visitors and, as a last resort, purchase the land in order to promote appropriate conservation management (Reid, 2002). The JNCC and Natural England have produced and published different guidelines to inform and assist land owners and authorities: for example guidance on appropriate assessment, significant effects, stewardships, and management. A great deal of information can also be found on their websites.

When considering land use and management for Natura 2000, it is important to distinguish between terrestrial and marine sites. Nature Conservation Agencies are able to negotiate statutory management agreements with specific owners and occupiers, restrict the activities of visitors, take enforcement action if activities are damaging the site and, as a last resort, purchase the land in order to promote appropriate conservation management (Reid, 2002).

Special attention was paid to the management of coastal and marine sites. The UK designated marine sites after Greenpeace brought a case against the government in 1999 in which the High Court confirmed that the Habitats Directive did apply to the continental shelf and to waters up to the 200-mile fishing limit. In the UK, site boundaries include the entire water column and full extent of the estuary from the upstream extent of saline influence to an agreed mouth. The Government considers that, particularly in the marine environment, a management scheme is the most appropriate mechanism for the relevant authorities to deliver the requirements of the Habitats Directive regarding conservation of the species and habitats of the designated areas. Relevant Authorities (i.e., those with statutory responsibilities in areas which are designated as Natura 2000 sites) have to produce and implement management schemes for European Marine Sites (c.f. WWF, 2005). They have to work with each other and with the various stakeholders (Jones *et al.*, 2001). A management group was set up, which involved all the relevant authorities for all marine sites. These authorities may draw up a non statutory management scheme under Regulation 34 for European Marine Sites. Such a scheme, which must be based on the advice given by Natural England and a scientific advisory board, therefore provides the framework through which the relevant authorities exercise their functions in order to secure compliance with the Habitats Directive.

Process of designation and stakeholder participation

The UK has a long tradition with the designation and protection of SSSI. However, not all SSSI qualify as a SAC and therefore the UK has based site assessment on the criteria and principles set out in the Habitats Directive. This has resulted in the identification of many sites that were not designated as SSSIs before. McLeod *et al.*, (2005) give a detailed overview of the selection and designation of SACs in the UK. The selection of designated sites was coordinated by Natural England. The JNCC helped to develop the scientific standards. The selection of sites was based on scientific criteria only. SAC boundaries have been drawn closely around the qualifying habitat types or the habitats of species for which the sites have been selected. SSSIs are usually larger because they also include conservation features that

are of national importance. Buffer zones were not included as a part of SACs. In some cases a number of small sites have been grouped into a single SAC. This was done when the qualifying features were ecologically interdependent, or were geographically contiguous prior to fragmentation caused by human activities.

Public consultation with land owners and users started after a list of possible SACs was approved by the government in 1995. In addition a wide range of organisations, including governments, NGOs and industrial and commercial bodies were asked to give comments on the list of possible SACs. These comments were used to make some changes to the list. Consultation was organised at a regional level. When provisional designation was likely to be made definite, English Nature contacted farmers, users, and land owners to inform them about the consequences and possibilities. Stakeholders were consulted during the process, but it was made clear that only scientific criteria mattered for the designation. In general, people were given a period of six weeks in which to respond, though the consultation period was extended to 12 weeks for marine sites (McLeod *et al.*, 2005). Selected sites were proposed to DEFRA, who judged them and proposed them to the Secretary of State. After this consultation process the list of SACs was sent to the EU.

The list of possible SACs was discussed at international meetings held in Kilkee and Paris in 1999. The UK list was criticised because too few sites had been selected, therefore the UK started a modification process to enhance the list for those features which were judged to be insufficiently represented.

On 7th December 2004, the European Commission formally adopted the UK's list of candidate SACs so that they became Sites of Community Importance (SCIs). Following this the 236 English sites on this list were formally designated as SACs by the Secretary of State for Environment, Food and Rural Affairs on 1 April 2005. All terrestrial SACs in England are also Sites of Special Scientific Interest (SSSIs), although not all sites in the UK were notified as SSSIs at the time they were identified as SACs (Defra, 2001). At the moment the selection process is largely complete but the consultation process for some new or amended sites is still ongoing.

After the formal designation Natural England is required to notify landowners, relevant authorities, and other persons or bodies involved in the area about the designation⁹. This notification must include the features for which the area has been designated and a list of activities that Natural England considers likely to damage such features. Such activities may only be carried out with the consent of Natural England and if they are in accordance with the management agreement.

Conservation targets were set at a national level by a scientific committee led by the JNCC. At the regional and site levels the targets were set in discussion with Natural England. The conservation objectives are the starting point from which management schemes and monitoring programmes may be developed, because they provide the basis for determining significant current or future pressures, and define the scope of appropriate assessment of plans or projects. The conservation objectives set out what needs to be achieved and thus deliver the aim of the Habitats Directive.

Natural England and other organisations responsible for the management of protected sites talked to individual land owners and farmers and built relationships with local authorities. Relevant groups were invited to participate in workshops and consultations. In many cases,

⁹ Article 13 of the Habitats Regulations

though not all, people appreciated that these processes take a more holistic approach to nature and the environment rather than focusing on single species. More importantly, this approach makes it possible to incorporate species that are visible and important to the local community not simply high profile ones. Everybody was involved, young or old, amateur or professional.

In the New Forest National Park, for example, individual land owners were approached for discussion about conservation targets and their own aims and to set mutually agreeable objectives, with a matching management scheme. In this discussion there was enough room for other related issues, e.g., tourism, infrastructure and village expansion. The overall management plan does not simply deal with nature but also covers other issues in the Park. At some point people may become bored by all the consultation, but they do have the feeling that they have had some influence. The designation process and the management can be described as top-down site designation and formulation of conservation objectives in combination with a bottom-up process of stakeholder involvement.

Monitoring of the sites

A new common standards monitoring system for designated sites was developed in 1998. This scheme is used to monitor not only SPAs and SACs, but also other designated areas like SSSIs or Ramsar sites, in the UK.

The purpose of common standards monitoring are 1) to determine the effects of measures and the necessity for further action at site level, 2) to assess the effectiveness of current conservation action and investment, and priorities for future action at country level and 3) to meet national and international reporting commitments and identify implementation problems at UK level.

Natural England monitors whether the objectives are reached and relevant authorities monitor enforcement of those measures under the Management Scheme that falls within their function. The results of the monitoring are presented every six years. The first report was published in 2006 (Williams, 2006) and covered 57% of the total features in the UK.

Table A.4 Overview of the Favourable Conservation Status of sites and species.

	SACs	SPAs	species	mammals	breeding birds	non-breeding birds	amphibians
Favourable	37%	78%	68%	65%	75%	84%	44%
Unfavourable recovering	24%	2%	7%	10%	3%		33%
Unfavourable	38%	20%	25%	24%	22%	16%	23%
Destroyed	1%						

	fish	butterflies	damsel flies	other invertebrates	flowering plants and ferns	non-flowering plants and fungi
Favourable	16%	30%	13%	12%	46%	33%
Unfavourable recovering	12%	20%	49%	20%	28%	11%
Unfavourable	69%	45%	38%	68%	26%	50%
Destroyed	3%	5%				6%

For each site the special features responsible for its designation are assessed to determine whether they are in a favourable condition. This is done by measuring the key attributes, such as extent and quality. Supporting processes are identified and compared against the targets set for each. Human activities and other factors which are likely to affect the site adversely are also recorded, along with any conservation measures. This is done to gain a better understanding of the relationships between impacts, measures, and the condition of features. The total cost of monitoring was estimated to be 14 million pounds, which is 7% of the total management cost, including staff costs and the start-up costs of training, guidance and standards development (Williams, 2006).

71% of all SACs and 44% of all SPAs have been reported on in the UK. Species are reported per group and include species that are not protected through the Habitats Directive (Table A.4).

Discussion on land use of N2000 sites

Overall there is a great deal of support for the Natura 2000 sites, although most people never heard of the designation (c.f. WWF, 2006). Most sites are known as SSSIs, but stakeholders are often aware of SPAs, SACs, or European Marine Sites and thus of the European protection status. People do not distinguish between specific species or habitats and more general wildlife or environment protection in their everyday conversations. A more general perspective on nature, in which the specific European features are included, is often promoted by Natural England or other organisations that manage protected areas.

The Thanet Coast project shows that such an approach can be very successful. This site was designated to protect wintering birds (turnstones and golden plover), breeding little terns, chalk reefs, mud and sand flats and submerged sea caves. The project, however, focused on a more holistic approach which concentrated on ecosystems. Many individuals and organisation with different interests and backgrounds participated in the process and agreed to shared management arrangements. The ecosystem approach made it possible to broaden discussions and to include issues of particular concern to other stakeholders. This led to broad support for the project, which also helps to protect Natura 2000 features, which is apparent in peoples' participation of in all kinds of activities and in the formulation of many different voluntary codes covering, for example, dog walking, shellfish harvesting, shore angling, bait digging and collecting, and field trips. In these codes people voluntarily agree to avoid damaging the marine and bird life, to encourage responsible use of the coast and to keep everyone safe. A survey of wintering turnstones showed that this approach worked because the birds' fat percentage had increased, which is an indication that they are less often disturbed when feeding and resting.

A similar approach is used in the New Forest National Park. Here too the park authorities invested a good deal of time on informing and consulting land owners and users. The discussions were not limited to conservation objectives, people were offered the possibility of including other issues.

Both projects support the idea that participatory approaches are a useful means to reach consensus between the different stakeholders involved and to create more awareness for conservation objectives (e.g. , Ledoux *et al.*, 2000).

The positive experiences in both the places visited for this research project do not hide the fact that there is a variety of discussion and conflict arising from the tension between nature conservation and other activities. Some of the discussions are very local and have to do with the characteristics of a specific site, while some are more general and are also relevant for other areas.

The designation of sites under the Birds directive gave rise to site specific rather than general discussion. The main criticism came from nature conservation organisations who argued that too few sites had been designated. Designation under the Habitats Directive was more problematic and led to discussion because people feared restriction of future development or limitation of current use. Criticism came from individual land owners, authorities, private companies, and various interests groups. English Nature therefore put a great deal of effort into informing people. Many sites designated as a SPAs were already SSSIs or part of a management scheme. People are familiar with the designation of conservation sites and for most of them the formal designation as SPA or SAC did not change much. Much attention was paid to the designation of coastal and marine sites.

For most sites the designation as SPA or SAC did directly affect current activities. The Habitats Regulations require a reassessment of all consents that had been given for activities in protected areas. This review process will show which activities are potentially damaging to the sites.

There are some differences in the consequences for current activities between the SPAs, designated under the Birds directive and the SACs, designated under the Habitats Directive. The conservation of birds seemed to have less impact on current uses of the area. Many sites were designated for wintering birds and this conservation objective does not seem to conflict with other activities, such as agricultural use. Grazing sheep, for example, enhance to some extent the specific vegetation that breeding or wintering birds, like the golden plover, seem to prefer. The habitat types for which the sites were designated as a SACs, however, are much more vulnerable to overgrazing and drainage. The protection of specific nature conservation interests therefore implies restrictions for current land use. Restrictions are objected to by people who have sometimes used these areas, for a long time.

The interviews and the literature review show that there are many activities that might potentially have a negative influence on conservation objectives (c.f. Holdaway & Holdaway, 2000; Williams, 2006):

- forestry and management of woodlands;
- over grazing and under grazing;
- natural erosion;
- the quality and control of water through drainage;
- management of recreation and tourism;
- urban development;
- port development;
- landscape objectives;
- fisheries;
- sea defence.

The impact of these activities varies; some are very local while others are much more severe. The JNCC concluded in the monitoring report that a lack of remedial management is often a factor causing unfavourable conditions (Williams, 2006). In the same report they argue that grazing is perhaps the largest single cause for concern. Upland habitats are threatened by over grazing, while under grazing is a problem in some of the lowlands. There is a growing awareness that agricultural activities, like grazing and draining have a negative impact on conservation objectives. While this awareness is growing, farmers are becoming more averse to conservation objectives because they fear further restrictions. In addition, forestry bodies are afraid of the implications of Natura 2000 for their timber production.

Recreational activities are not regarded as a major threat, but a combination of many different

activities might cause severe disturbance. It is impossible and undesirable to take legal actions against all kinds of more or less unorganised forms of recreational activities. Awareness, education and voluntary codes seem to be powerful mechanisms for limiting negative effects. At the local level, developments such as campsites might have a negative impact. However, such developments are managed through the normal planning system.

The ecosystems of estuaries and coasts have greatly changed over past centuries. Port developments, dredging, sea defence, commercial fisheries and cockle fishing all seem to impact on conservation objectives (Morris & Gibson, 2007; Lee, 2001). The designation of marine sites gained considerable attention because not all of these areas were governed as nature sites before (Morris, 2005). Only some of them were designated as SSSIs and their ownership situation and their diverse uses make management difficult. Additionally, the natural dynamics of these areas cause severe changes as well. There is a continuous variation between intertidal salt water areas and freshwater areas. The natural dynamics and the importance of sea defence make it difficult to protect specific types of habitats in the long term. Many Natura 2000 sites in England are coastal sites and different people have argued that rigid and static interpretation of the Birds and Habitats Directives causes problems in these highly dynamic ecosystems (e.g. Ledoux *et al.*, 2000; Lee, 2001).

There is growing concern about the impacts of different types of fisheries on coastal and marine ecosystems. In the UK this gained much attention after the so called Greenpeace Judgement in 1999, which extended the scope of the Habitats Directive out to the limit of its 200 nautical miles exclusive fisheries zone (De Santa & Jones, 2007). Due to several law suits in different Member States, it has become clear that fishing activities, including mussel and cockle fishing, have to be considered as activities with potentially significant effects on protected habitats and species. The discussion about fisheries is difficult because it involves complex ecosystems which require more study in order to understand the relationship between fishing activities and conservation objectives. Additionally, authorities are reluctant to take action because they want to avoid inequalities between economic fisheries in different member states. Although such discussion seems to have been avoided until recently, it is likely that fisheries are to become one of the major issues in the near future; especially since environmental NGO¹⁰ and scientists¹¹ are increasingly demanding more attention for the protection of marine reserves (c.f. De Santa & Jones, 2007)

The literature research and the interviews show that there are many discussions and possible conflicts between Natura 2000 objectives and all kinds of land use activities. However, it is important to notice that there are also possible conflicts between different types of conservation objectives. For example conflicts between Natura 2000 objectives and landscape objectives. Different nature conservation objectives can also conflict. An interesting example is the national protection of pine forests in dune areas, because of the occurrence of the red squirrel, which conflicts with the European protection of dune habitats which requires the pine trees to be felled. Conflict also arises between the protection of different Natura 2000 habitats. In coastal areas the protection of fresh water habitats often has negative consequences for the salt water ecosystem. The natural dynamics of these ecosystems make it impossible to protect both habitat types at the same time (see e.g. Ledoux *et al.*, 2000). In addition natural erosion of coastal habitats is an issue. With strict interpretation of the Habitats Directive this erosion should be prevented because it causes the degradation of protected habitats. However this dynamic ecological change is a natural process and an important reason for the ecological richness of the area.

¹⁰ <http://www.greenpeace.org/eu-unit/campaigns/oceans/marine-reserves>

¹¹ http://www.york.ac.uk/depts/eeem/gsp/mem/marine_reserves_consensus.pdf

Nord-Rhein Westphalia

Irene Bouwma

Overall policy context

In North-Rhine Westphalia (NRW), as well as in the rest of Germany, the responsibility for nature conservation is allocated at the state (Länder) level. Therefore the Bird and Habitats Directives are transposed into the State law (Länderrecht) in the Gesetz zur Sicherung des Naturhaushalts und zur Entwicklung der Landschaft. (Landschaftsgesetz – LG in der Fassung der Bekanntmachung vom 21. Juli 2000, latest revision 19.06.2007(GV.NRW.S.226,227, ber.S.316).

In NRW nature conservation is the responsibility of the Ministry of the Environment, Conservation, Agriculture and Consumer Protection (Ministeriums für Umwelt und Naturschutz, Landwirtschaft und Verbraucherschutz). The Ministry is supported by a specialized agency, the Conservation Environment and Consumer Affairs Inspectorate - das Landesamt für Natur, Umwelt und Verbraucherschutz Nordrhein-Westfalen (LANUV) - in the field of nature-conservation issues. In forested areas the LANUV is supported by the state owned Company of Forest and Wood.

LANUV was created on the first of January 2007 through a merger of three specialized Agencies (Landesanstalt für Ökologie, Bodenordnung und Forsten (LÖBF), Landesumweltamt (LUA) und Landesamt für Ernährung und Jagd (LEJ)).

The management of the forests in NRW is the competence of the Company of Forest and Wood (Landesbetrieb Wald und Holz) which is owned by the State and therefore also falls under the responsibility Ministry of the Environment. The head-office is responsible for advice and provision of information to the regional forest departments. There are 16 regional forest departments (Regional Forstämter) who's tasks consist of: advising private and communal forest owners on forest management, the management of the state forest and parts of the private and communal forest in their region, nature conservation in the forests, arrangement of subsidies for nature conservation measures, training and education.

The planning and management of the protection of natural and landscape values in NRW is arranged in the following ways:

1. Areas with high nature conservation values can be protected as nature reserves. In NRW there are different categories of protected areas, the most important being: **Naturschutzgebiet (nature reserve)**, larger natural areas can be designated as **National Parks** and small natural objects are protected as **Naturdenkmal (nature monuments)**.¹² Larger areas with more landscape and lower nature values can be designated and protected as **Landschaftsschutzgebiet (landscape protection areas)**.
2. Landscape planning.
Most of the Natura 2000 areas in NRW are protected as **nature reserves**

¹² There are also two other protection statuses: small biotopes can be protected as "protected biotope (Geschützte Biotope) and trees and shrubs that have a special value a landscape can be protected as well (Geschützter Landschaftsbestandteil)

(Naturschutzgebiete) (82 %). The responsibility for the drafting of the restrictions for land use in these areas is located either at one of five administrative districts (Bezirksregierungen) or the regional districts (Kreise oder kreisfreien Städte). The regional district is responsible if it is drafting a plan for its region (Landschaftsplan). These plans include the different nature conservation levels **nature reserve (Naturschutzgebiete), landscape protection areas (Landschaftsschutzgebiete) and nature monument (Naturdenkmale)** and describe the permitted land use (e.g., agriculture, forestry, hunting or recreation) in the different conservation areas in the region.

This document consists of:

- Description of the development goals for the area
- Description of the various conservation areas and the individual restrictions for Land use
- Establishment of regulations for use of forests
- Establishment of the development and management measures

3. Like all countries NRW also has regulations that identify the effect of changes in land use; such as the development of new roads, deforestation and mining; have on the environment (Eingriffsreglung). Depending on the type of development different procedures apply (Environmental impact assessment, Strategic impact assessment or assessment according to article 6 of the Habitats Directive (FFH-Verträglichkeitsprüfung)

Private landowners are important partners for nature conservation in NRW. Since the 1980s there has been a practice in NRW of financially compensating private landowners when their land is protected under nature conservation law. Furthermore the outlook on nature conservation is also influenced by the German national conservation law which contains the national exclusion clause for agriculture, forestry and fisheries (Landwirtschaftsklausel) . This important clause states that regulated use by farmers, foresters and fishermen cannot be seen as a violation of nature and landscape (van Apeldoorn, 2007).

Financial means of supporting nature conservation purposes are provided through various programs including:

- Rahmenrichtlinien Vertragsnaturschutz (Kreiskulturlandschaftsprogramm): this provides funds for agri-environmental measures by private landowners in the agricultural landscape - it consists of three targeted programs focusing on wet meadows (Feuchtwiesen), floodplains (Gewasserauen) and lowland mountainous areas (Mittelgebirge).
- Richtlinie über die Gewährung von Zuwendungen zur Förderung forstlicher Maßnahmen im Privat- und Körperschaftswald: this provides support for private or communal forest owners to receive either funds for specific management measures or a general payment per hectare if they accept the measures contained in the specific management plan (Sofortmaßnahmenkonzept).

In NRW the Biological Stations have a special role in nature conservation since the 1980. They are independent, private associations which are partly financed by the State and Municipalities. At present there are 34 Biological Stations in NRW and they can be responsible for the management of natural areas, provide advice and try to stimulate the involvement of private landowners in nature conservation by assisting in contract-based nature management. They provide training and education on nature conservation issues, and they develop and undertake projects for the protection of endangered species and habitats. At present the Biological Stations are suffering from a reduction in State financing (www.nrwbiostationen-nrw.org).

Nature conservation targets of N2000

Thus far NRW has designated 25 areas under the Birds Directive and 518 areas under the Habitats Directive. In total approximately 278,525 hectares have been designated, covering 8.2 % of the region. The areas have been designated on the basis of occurrence of 87 habitats and 65 species of the Habitats Directive (<http://www.naturschutz-fachinformationssysteme-nrw.de/natura2000-netzwerk/>).

Respondents indicated that the Natura 2000 sites designated in NRW are pre-dominantly terrestrial. In addition, most of the agricultural areas had already been protected as nature reserve (Naturschutzgebiete) prior to their designation as Natura 2000 sites. The designation as Natura 2000 sites did lead to an increase of protected forest areas, as they were underrepresented in the existing protection regime.

Many of the Natura 2000 sites designated in NRW are relatively small - more than 23 % is less than three hectares (Table A.5). Several of these SACs and SPAs are in fact groups of geographically discrete units and in such cases different areas have been designated under the same name

Table A.5: Size division of designated sites in NORTH- RHINE Westphalia (based on the available GIS-data November 2007 <http://www.naturschutz-fachinformationssysteme-nrw.de/natura2000-netzwerk/>).

Class ha	North- Rhine-Westphalia (areas)	
<3	270	23%
3-30	419	36%
30-100	221	19%
100-300	132	11%
300-1,000	81	7%
1,000-3,000	30	3%
3,000-10,000	10	1%
> 10,000	4	0%
	1,167	100%

Land use and management

The analysis of the land use¹³ in and around the Natura 2000 sites (based on CORINE Land Cover) shows that NRW has designated mostly forest and semi-natural areas (55%), arable lands (23%), and some pastures (14%). The analysis shows that urban areas can be found in the vicinity of designated areas, but little of them is included in the designation (<1%). The analysis with CORINE is in line with the available FFH-Statistik of LANUV which indicates that around 39 % of the Natura 2000 sites is arable land, around 55 % is forests (see Figure 1, main text).

The analysis shows furthermore that the direct vicinity of the designated areas mainly consists of arable land (55%) and forest and semi natural areas (33%). About 10% of the vicinity is an urban area. (see Figure 5 and 6, main text)

¹³ In all countries an analysis with Corine Land Cover was undertaken in the framework of this project in order to compare the land cover of the different study areas.

There are no statistical data available on the ownership or management of the sites, except for the forested areas. Of the total area designated under the Habitats Directive about 38 % is designated on the occurrence of habitats – 83 % of them being forests. For the forested areas it is estimated that around 40 % is privately owned and 20 % is owned communally (Kreis oder Gemeinde)(FFH-Statistik, juli 2006). For the agricultural areas no statistics are available, the respondents indicate that here the majority will be privately owned.

Management

The development of management plans has not been made compulsory in NRW and the way in which they are made or will be made differs for sites pre-dominantly used for agricultural purposes or forestry.

- Agricultural areas: As most of the agricultural lands already had protected status under **nature reserves (Naturschutzgebiete)** the existing planning system for these will regulate their basic protection. In the process of the official designation a Regulation (Verordnung) is drafted that describes the permitted land use in the area. According to some respondents the focus of these regulations is to maintain the situation, to provide basic protection but they do little actually to improve the situation. Special nature conservation measures which are considered to go beyond good agricultural practice need to be arranged through special agri-environmental schemes (Vertragsnaturschutz). At the moment LANUV is reviewing the possibility and need to develop specific guidelines for the management of these areas (neues Verfahren für ein Massnahmen Konzept). However, this is still in the early stages of development, in 2008 the first pilots will be undertaken.
- Pre-dominantly forested areas: Since 2000 most of these areas have been protected as **nature reserves (Naturschutzgebiete)**. In the process of the official designation a Regulation (Verordnung) was drafted that describes restrictions for recreation, hunting and forestry in these areas. The focus of these regulation is to maintain the situation, to provide basic protection but the regulations contain non or very few measures for improvement. For the development of these areas a guideline for a management plan has been elaborated (Sofortmassnahmenkonzept SOMAKO,LÖBF, 2004). This management plan consists of:
 - A description (on flora, fauna, forestrypractices and other developments in the area);
 - An assessment of the nature conservation need for protection and the nature conservation goals;
 - Measures for maintenance and development.

The SOMAKO outlines which management measures can be taken in the next twelve years to further the Natura 2000 goals for specific areas. Respondents indicate that most of the measures are related to changing the forest composition to the natural vegetation (conversion of coniferous-forest into broadleaved forests) as well as increasing the amount of old, big trees and deadwood. At present about 80 % of the plans required being processed or have been completed – the whole process should be completed around the summer of 2008.

The plans were drafted by the regional forest departments (Regional Forstämter) with guidance and advice of the LÖBF until 2007 and now of the head-office of the Landesbetrieb Wald und Holz and the LANUV. During the drafting of these plans consultation with involved forest owners took place. The measures proposed in the plans are compulsory for state-owned forests, but not for forests privately owned ones. There are subsidies (Vertragsnaturschutz) which can be obtained by the private forest owners in case they do want to take the measures suggested in the plans.

Process of designation and stakeholder participation

The selection of designated sites was coordinated by the predecessor of the Landesamt für Natur, Umwelt und Verbraucherschutz, (LANUV, former LÖBF). Prior to designation a Landers-wide inventory was undertaken to establish occurrence of the species and habitats falling under the two Directives. On the basis of this inventory the best sites were selected.

For species and habitats that are abundant at least ten of the best areas were selected (at least 50% of the area of occurrence). For less abundant species the five best areas were selected (20 % of the area of occurrence). The LÖBF/ LANUV is taking great pains to make all the ecological information available through a special internet site (<http://www.naturschutz-fachinformationssysteme-nrw.de/natura2000-netzwerk/>).

During the nature conservation selection process the NGO, the NABU, the BUND and the LNU, developed a so-called shadow-list identifying which sites would also merit protection under the Birds and Habitats Directives. One of the aims of the development of this list was to put pressure on the government to speed up the process of site selection. The development of the shadow-list did lead to some changes, for instance the inclusion of river floodplains in specific areas.

Before submission of Germany's proposal to the European Commission, two types of consultation process were organised at regional and local levels. The first consultation process was related to the general identification of sites.

In the second round regional working groups (Arbeitsgruppen) were formed which consisted of the landowners and other stakeholders. Afterwards the notice to designate the site was published in local and regional newspapers and an official four week period was allowed during which the public could formally lodge any complaints.

NABU, BUND, LNU, the Farmers Union (Westfälisch-Lippischer Landwirtschaftsverband) and the hunting association (Landesjagdverband Nordrhein-Westfalen) provided guidance and support to their local members in this process. Although stakeholders were consulted during the designation process, it was made clear that only scientific criteria mattered for the designation. As a result, in several cases, stakeholders - mostly farmers - ordered a second opinion by hiring a consultancy to review the occurrence and location of the habitats, in order to dispute the selection of certain sites within the network.

In addition the fundamental question was raised as to how far nature conservation obligations would be grounds for setting restrictions on land use by private landowners. As the selection process partly coincided with elections the process also became an important political theme, which did not facilitate the process.

In 2004, the European Commission formally adopted the German list of candidate SACs so that they became Sites of Community Importance (SCI). The official designation process of the areas had already been concluded before that time. The regional district (Kreise and Kreisfreie Städte) is responsible for the designation and regulation of the use of both the areas falling under the Naturschutz and Landschaftsplanung.

The conservation targets are set at the site level – no targets have been defined at the regional level. (Länder-level)

Monitoring of the sites

The LANUV is responsible for the monitoring of the sites. The report to the Commission on the Favourable Conservation Status of is based on the inventory made in the period 1999-2001. It is available on the internet-site of LANUV (....).

A new monitoring system will be set up for Natura 2000. For habitats that are abundant a sampling strategy was developed (170 samples, each of 1x 1 km). For rare habitats a targeted sampling will be used, for very rare habitats a complete inventory will be made. The methodology for the assessment of the situation of the habitat types has been already developed (LÖBF, 2002). The actual work will be subcontracted to the Biologischen Stationen or bureaus specializing in these types of field research.

Discussion on land use of N2000 sites

At the time of the identification of the Natura 2000 sites (2001-2004) there was much discussion with various groups of stakeholders on the ramifications the designations would have for land use. A spokesman of the agricultural sector indicated that there was no clarity on the consequences of the designation of sites for land use. Additionally, the fact that the stakeholders were only involved after the first selection process was concluded caused much apprehension and opposition (Suda *et al.*, 2005).

Respondents also indicated that since the selection process partly coincided with elections the whole process was also exploited by some political parties in order to increase electoral support. Currently the issues are receiving less attention.

Respondents indicated that the main points of discussion were:

1. Selection and boundaries of the sites – agriculture reports were drafted to dispute the ecological criteria used for selection of the sites. In many areas the process of consultation undertaken prior to submission of the sites to the EU led to a decrease in the number of sites, due to changes in boundaries.
2. What are the consequences of designation for the agricultural and forestry use? Forest owners in particular were afraid that the designation would inhibit them in their forest practices.
3. What are the consequences for the monetary value of the areas? In NRW the prices for land protected under the Nature conservation or landscape protection are lower.
4. The hunting association also ensured that under the new law hunting within the areas was still allowed.

For private forest owners the management plans (SOMAKO) are not legally binding, and based on voluntary participation.

For predominantly agricultural areas NRW has decided to use the existing planning system for Naturschutzgebiete and Landschaftschutzgebiete to arrange basic protection and necessary management. Basic protection is arranged through the existing system and therefore the discussion on land use in these areas will start locally at different times and only when the current plan has ended and a new plan is to be drafted. Although restrictions in these plans are binding, they provide a basic protection for the area. Several activities which might be required for attainment of the set goals will go beyond "good farming practices" and are voluntary based on agreements made under the agri-environmental schemes (Vertragsnaturschutz). At present they are also considering drafting management plans for these areas (Maßnahmenkonzepte (MAKO), but this is only in the early stages of development

In the forests the SOMAKO does not appear to have led to difficult debates on forest management with landowners. This is most likely because it is voluntary for private landowners and is imbedded in longer term forest management .The measures are only planned anyway in stands where activities were foreseen as part of normal forest management.

In order to implement the management plans an investment needs to be made in contacting private landowners and discussing with them their willingness to participate in special forestry schemes. Some respondents question whether there is enough capacity, experience and money available for such a proactive approach.

In agricultural areas respondents also question whether the current schemes are good enough to entice landowners to join them, particularly since food prices are rising and the EU has abolished the set-aside regime. In addition production for bio-energy is becoming popular. The success of nature conservation will depend on whether there are local groups on the ground that will initiate targeted action for improvement.

Furthermore, respondents indicated that there are not only conflicts between human activities and conservation objectives, but also between different kinds of conservation; for example, landscape protection may conflict with other nature conservation objectives.

Lower- Saxony

Rob van Apeldoorn

Overall policy context

In Germany a Federal State, the States ('Länder') are responsible for selecting and proposing the sites. At the national level, the German Ministry for Environment, Nature Protection and Nuclear Safety (Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit) is responsible for the implementation of the BHD. For this reason, they coordinate and tailor all the state proposals to be sent to Brussels. Within the ministry, it is the Department for Nature Conservation (Bundesamt für Naturschutz: BfN) that plays the most important role in the whole process. National government and State governments and their administrative staffs cooperate in a nationwide working group (Länderarbeitsgemeinschaft Naturschutz, or the LANA).

In 2005, the process of selecting sites and coordinating the whole process resulted in a list of 4,617 SCIs and 568 SPAs (together more than 5,100 Natura 2000 sites or 'Besondere Erhaltungsgebiete'). The high number of sites is due to the number (SCI) smaller than 1,000 hectares (about 1,750 are smaller than or between 50-100 ha, about 1,500 between 100-500 ha, and about 550 are between 500-1,000 ha). About 800 sites are between 1,000 and more than 5,000 hectares (Raths *et al.*, 2006).

Germany differentiates between several categories of protected natural areas, each with its own protection regime. Four protection regimes are especially important for the BHD because most of the Natura 2000 sites selected (SCI and SPA) fall into these categories (protection regimes are frequently combined). The categories are: Nature reserves, National Parks, Biosphere Reserves and Nature parks (Naturschutzgebiete, Nationalparke, Biosphärenreservate und Naturparke)(van Apeldoorn, 2007), of which the first three categories provide the strongest protection.

Amongst the states ('Länder') the selection and implementation of sites is organized differently. In some larger states, e.g., Lower Saxony, the district government ('Bezirksregierung') and its administration are positioned between the state governmental ministries (Landesministerium) and the lower government of the counties (Landkreise), and large towns (the 'Kreisfreie Städte') which are independent.

Specialist agencies (Fachbehörden), such as the NLWKN and the 'Landwirtschaftskammer' in Lower Saxony, exist in most states, and advise the ministry and the counties. For instance, the state agency NLWKN (as a part of the Lower Saxony Ministry for Environment) is formally responsible for advising on the implementation of Natura 2000 at all governmental levels (state, county, community), and for providing guidance with the technical aspects of the selection and designation process of the Natura 2000 sites in Lower Saxony. Some of its activities are similar to those executed by a so called quasi non governmental organizations or quangos in other countries such as the UK (see Neven *et al.*, 2005).

In Lower Saxony the Ministry for Environment (Niedersächsisches Umweltministerium) is responsible for the implementation of the BHD in cooperation with the lower government of the 38 counties (Landkreise) and 14 large towns ('Kreisfreie Städte'). Since the abolition of the 'Bezirksregierung' at the end of 2004, the counties and towns with their elected governments

(Landkreise) have had a more important role in nature conservation, along with the administrative bodies which in all counties and large towns are called the 'Untere Naturschutzbehörde'(UNB).. The *Landkreise* are governed by an elected 'head' called the Landrat, who is elected for 12 years. Nowadays the counties and big cities are responsible for the whole Article 6 HD. This means they are responsible for the appropriate conservation measures to be taken (Article 6.1) and the Appropriate Habitat Assessment (Articles 6.3 and 6.4). Furthermore, they can designate Nature reserves outside Natura 2000 sites.

As mentioned above, many selected Natura 2000 sites include already protected sites (nature protection areas, e.g., Nature Reserves) whose general ecological goals and regulations (stating which activities are permitted inside the protected area) were set out in an official decree (Verordnung). Additionally, especially for the larger ones, about 70 management plans exist. However, most decrees and management plans need to be adjusted to the BHD requirements.

Natura 2000 sites not already protected also need a decree, but management plans are not required by state law in Lower Saxony. For complex areas like river basins and estuaries the Lower Saxony Water Management, Coastal Defence and Nature Conservation Agency ('Niedersächsischer Landesbetrieb für Wasserwirtschaft, Küsten- und Naturschutz', NLWKN) still is responsible for the decrees and management regulations.

The responsibility for the whole of Article 6 is a major task for the lower conservation authorities (UNB) because of the low number of personnel with the necessary experience and skills, and the lack of money for writing management plans. Because of the political environment of the counties it is feared by some groups in Lower Saxony that political arguments rather than technical and scientific ones will influence important decisions to be made at the county level.

Necessary data and information describing the current situation at the sites is also missing for many sites. Older site descriptions and inventories made at the state ('Landes') level could only be partially used. Therefore site descriptions and the management needed will sometimes be based on insufficient information and can cause problems during this part of the implementation process. For these reasons many nature conservation authorities (and NGOs) in Lower Saxony, and also in many of the other 16 states, are worried about this part of the implementation process. Nevertheless, new opportunities for implementation of conservation goals and necessary management will probably be opened up by using the WFD implementation process (van Apeldoorn, 2007).

Conclusions

As in other European countries the second phase in the implementation process of the BHD (taking the necessary conservation and management measures after the selection and designation of the sites) will be the responsibility of lower governmental levels and their lower conservation authorities who are as close as possible to the different stakeholder groups. In Lower Saxony the county (Landkreis) will be responsible for all of Article 6. However, adequate capacity to fulfill these tasks appears to be lacking. Furthermore, some stakeholders fear that the involvement of politics will influence important decisions which must be made by the counties and their conservation authorities.

Conservation objective Natura 2000

In Lower Saxony it is not expected that new SPAs and SCIs will have to be selected. For each site ecological goals have been formulated. They are aimed not only at preservation of species and habitat types but also restoration and development (Table A.6).

Table A. 6 Overview of designated sites in Lower Saxony

Category (GIS based data November 2007)	Total Area (ha; including marine sites)*	% of Total Area (ha; including marine sites)*	Area (ha; marine sites excluded)	% Total area (ha; marine sites excluded)
SCI (HD, 385)	610,393	11.5	325,420	6.8
SPA (BD, 71)	677,579	12.8	339,736	7.1
SAC (N2000 sites)	852,914	16.1	499,984	10.5
Sites with former protection	659,692	12.4	33,470	7,0

* Marine zone is 539,301 ha and includes the 12 miles zone. The total land area of Lower Saxony is 4,765,798 ha.

Conclusions

The total area of SPAs and SACs in Lower Saxony are in the range of other European countries. Lower Saxony has already designated marine sites.

Process of designation and stakeholder participation

Because the whole implementation process differs between states, an overall picture cannot be given for Germany of the willingness of the different stakeholders (or groups) to cooperate with the authorities during, for example, the process of drafting the Management Plans (MPs). At the national level, resistance to both directives has come from agriculture and forestry in particular, but also from other economic stakeholder groups such as the Chambers of Industry & Commerce (Industrie und Handelskammer, IHK) and the related 'Bundesministeriums'. The intention to influence and change the directives at the national level do exist, especially because of the ruling of the European Court of Justice (ECJ) against Germany. According to the ECJ, Germany has not implemented the Articles on species protection sufficiently thoroughly (HD Articles 12-16). It also ruled that Germany should make some changes to its national conservation law so that the national exclusion clause for agriculture, forestry and fisheries (Landwirtschaftsklausel) would no longer apply within Natura 2000 sites (Anon.). This important clause states that regulated use by farmers, foresters and fishermen cannot be seen as a violation of nature and landscape (Apeldoorn, 2007).

Away from the national level, although MPs are not yet required for Natura 2000 sites in all states (also not in Lower Saxony), at the county level in particular, landowners and different groups of land users have to be informed about the BHD, the selected sites and the regulations formulated on site use and site management. Guidelines on how to involve stakeholders do not exist, so each state and lower conservation authority will have to experiment with this. In many states attempts are being made to involve other stakeholders during the drafting of the MPs. However, resistance among the stakeholders is expected in the case of management measures which set limits on agricultural and other emissions, or which require changes to specific land uses (see below).

Here it is important to note that the national Nature Conservation law will allow some specific groups of stakeholders to appeal against decisions (a procedure which was not possible under the previous legislation).

In Lower Saxony in the early 1980s the first sites were recorded to Brussels. In 2007 the last SPAs were approved by Brussels. In addition the process of integrating the directives into national (Bundes) law and the Lower Saxony law lasted till 2007. Thus the first phase of site selection and designation took more than 20 years.

During the process, sites were recorded to Brussels in several tranches and some sites were added separately after each selection. At the beginning of the process, it was mainly large

sites which were already protected and government owned forests that were selected; partly because of the absence of high political risks. Smaller sites and more private land (farmland and forests) were selected later on. Data collected by nature conservation organizations played an important role in the selection of sites because of a formal lack of such information.

For each site in Lower Saxony public hearings with stakeholder groups were organized. They sometimes resulted in alteration the boundaries of Natura 2000 sites, and even in some selected parts of sites being excluded from further consideration.

The long lasting process, the selection of several tranches and the ecological selection criteria, which were not always applied in a way that was clear to all stakeholders, left some groups feeling that they were confronted with a 'salami strategy'. In addition, the fact most stakeholder groups only started to become involved in the selection and designation process during the 1990s strengthened this feeling.

Furthermore, politicians who were not fully aware of the content of the Directives gave false impressions on the management of sites by stating early in the selection and designation process that use of the Natura 2000 sites would have mild regulations. This is also in contrast with the strict interpretation of the decisions of the European Court of Justice by German lawyers.

Conclusions

In general social acceptance of nature conservation, the European Directives and the Natura2000 sites and their management is relatively low in the country side. It seems to be better regarded within and in the neighborhood of the large cities. In areas where Natura 2000 is new, much attention has to be paid to its acceptance.

Although stakeholder groups were involved in the first phase of the process, the length of time that this took, and several occasions when new sites had to be selected, caused uneasiness in several groups. Uncertainties related to several topics regarding further implementation (to allow various kinds of use of the sites, and compensation; see below) strengthened this feeling.

Land use and management

Agriculture and forestry are the main functions in the Natura 2000 sites (about 60% and 11% respectively). For both the largest part (about 90%) of the area of farmland and forest is in private ownership. Because private farmers and foresters themselves hunt, or let their lands for hunting, this is an important activity and an existing type of the site usage.

For sites already protected by a formal decree or regulation as a nature conservation area (Naturschutzgebiet) the accepted use of the site was formulated under that regulation. Additional management plans have been written, especially for large sites (e.g., forests and moors). In most cases, for these areas, the existing use of a site is accepted, but not the extension and new development of private businesses (Veränderungssperre). However, should a site also become part of Natura 2000, discussions over acceptable kinds of use would have to start again. Once more, in general, existing kinds of use for the sites seem to be accepted as not being harmful, but new activities, development and changes in existing use are especially discussed. Further management plans are not required for the Natura 2000 sites. Thus, for many users and private owners of Natura 2000 sites the consequences they have to face are still unclear.

Furthermore, the favorable conservation status of species and habitat types on a site is formulated in a description that is based on collected data. However, it is unclear what will

happen if future evaluation of status shows it to have become less favorable. Some stakeholder groups (e.g., foresters, farmers and hunters) fear some kinds of use would still be unacceptable but they would no longer be eligible for compensation.

Some stakeholder groups also have the feeling that Natura 2000 sites will increasingly be seen purely as areas for the protection of nature. The uncertainty for users and owners over not knowing what use will be accepted increases further, because of some of the tasks and responsibilities of the government related organization NLWKN has been delegated to the level of the 'Landkreis' (see above) which, however, in many cases is unfamiliar with the directives and lacks the capacity to solve all problems.

Besides this, it is not clear to many site users and owners how the appropriate assessment will be applied, since they fear German lawyers' strict interpretation of judgments from the European Court of Justice.

There is also no clarity on how to calculate money paid in compensation. The most important stakeholder groups of users and private owners are also worried that they will not be heard by the politicians at State and Federal levels and will be forced to accept devaluation of their properties and new management measures without being compensated in an acceptable way. Compensation in Lower Saxony is related to the increasing value of agricultural land because of bio-energy crops.

Conclusions

Private ownership by foresters and farmers of large parts of the Natura 2000 sites, and their attitude towards necessary management measures, makes it difficult to achieve contract based management of the sites.

In a unique case like the Dümmer wetlands, the state of Lower Saxony purchased many hectares (9,000 ha) to set up a Natura 2000 site. The related money and the founding of the Dümmer Forum, in which stakeholders were actively involved in free discussion of all manner of management problems, decreased the gap between the opinions and the suspicions of stakeholders.

Monitoring of the sites

The state is responsible for the execution and financing of monitoring in Lower Saxony.

Existing monitoring systems will be used to fulfill EU obligations, but they will need to be adjusted to cover all Natura 2000 sites.

Monitoring is carried out by experts and expert organizations (e.g., research field stations) which are paid for their work. In contrast with countries such as The Netherlands and England almost no volunteers are involved in the monitoring systems.

Discussion on land use of N2000 sites

The next step in the implementation of the BHDs; after the selection of sites and the formulation of ecological goals; is the writing of management plans and the establishment of necessary management measures. Like several other EU member states (Neven *et al.*, 2005), Germany has chosen to achieve the ecological goals in Natura 2000 sites by using voluntary contract-based management (Vertragsnaturschutz; compare also with France and other EU countries).

In Lower Saxony it is not yet clear how the voluntary contracts will be related to the formal decree of a Natura 2000 site. Potential conflicts are to be expected because it is unclear whether users will be compensated when a lower level of production (in, for example, agriculture or forestry) has to be accepted, or even that the activity has to stop. In addition,

the method of calculating compensation appears to be based on an average decrease of income, instead of encompassing the increasing value of land from new market developments (compare bio-energy and the increased demand for food, which enhance the value of agricultural land).

The duration of the contracts is also being debated because of the developments mentioned above, but flexible contracts seem to be acceptable to many users: however, they need to be discussed with Brussels. In all 16 states existing conservation and management programs will be used for budgetary purposes, but the financial safeguarding of management and its organization will differ between the states (Apeldoorn, 2007).

In Lower Saxony, for instance, habitat and species protection programs will be used, but they were not set up for the purpose of the Natura 2000 sites and their necessary management. They focus on specific management measures that are required in areas that are already protected which can also be used in Natura 2000 sites. For instance, management contracts for several types of meadows, agricultural fields and landscape elements are regulated by an incentive management program known as *Proland* under the guidance of the Ministry of Agriculture. The program focuses on the management of habitats, as well as species (such as certain migratory bird species which use arable land and meadows), but also on the conservation and management of water and soil. The program can be seen as a policy instrument for implementing the federal Nature Conservation Law. This law sets down minimum standards for what is called 'good, skilful or basic management' (*guter fachlicher Praxis*) which apply to farmers, foresters and fishermen. For instance, farmers are required to register their use of manure and herbicides, and to adapt their management of the land to the local situation in such a way that soil fertility, for instance, will not be harmed.

Existing contracts with landowners and users based on the programs are voluntarily and last for at least five years. New contracts can last till 2013.

It is important to note that financial compensation for farmers within those Natura 2000 sites which are also Nature Reserves (*Naturschutzgebiet*) is part of the *Proland* program. Compensation will only be paid for management measures that focus on conservation objectives that exceed the formulated standards for a 'basic protection level for water, soil and nature' ('*Grundschutz*'), as mentioned above. Because of the limited funds available for compensation, the difference between the 'basic protection level' and the ecological goals in the Natura 2000 sites is not expected to be substantial.

The *Proland* program can also be used to buy land for conservation. However, such purchases have only occurred in a very few cases; e.g., around the Dümmer Lowlands; and seems to be related to areas where natural development needs to take place.

Conclusions

As stated before, a major problem now is achieving the necessary management of the sites by way of contract based management. In particular, the discussion on how to calculate compensation, and the restricted funds available, combined with many uncertainties (see under land use management) make several groups of users feel uneasy about site management for Natura 2000.

In addition, the increasing of value of agricultural land influences the willingness of farmers and foresters to be involved in Natura 2000 site management in a negative way.

In general groups such as private farmers, foresters and hunters have asked themselves whether they want to play a role in the management of Natura 2000 sites.

However, in some cases discussions begun between stakeholders have influenced in a positive way their attitudes and opinions.

Annex 3 Interview questions

Questions for officials responsible for the implementation of the Birds and Habitats Directives.

1. Can you describe the process by which the Natura 2000 sites have been designated?
2. Were users and land owners involved in the designation process? How were they consulted?
3. Who are the major owners or managers of the Natura 2000 sites?
4. Can you describe the most important conflicts or discussion with users and land owners about the designation of Natura 2000 sites?
5. Have there been discussions regarding the use of areas with high nature conservation values prior to the designation of Natura 2000 sites which might have influence on the present discussion ?
6. How is the management of the Natura 2000 sites organized? (financial arrangements, are management plans required?)
7. Can describe the range of activities within Natura 2000 sites? To what extent do these activities conflict with Natura 2000 objectives?
8. Who is involved in the formulation of the nature objectives and in the management of Natura 2000 sites?
9. How are users and land owners involved in the management of Natura 2000 sites?
10. Do people in general support the Natura 2000 objectives? Have specific activities been undertaken to generate public support?
11. How is, or will, the monitoring of the Natura 2000 sites be arranged?

Questions for interest groups involved in the planning and management of Natura 2000 sites.

1. Can you describe the kind of activities that are linked with your interest group that take place within Natura 2000 sites?
2. What are the consequences of the designation of Natura 2000 sites for these activities?
3. Does the current use of the area conflict with Natura 2000 objectives?
4. Has the designation as Natura 2000 site led to conflicts or discussions about the activities within the area?
5. At what phase of the implementation process did your organization become involved?
6. How was your organization involved in the selection and designation of the Natura 2000 sites?
7. Do the people / does the organization you represent support Natura 2000? Has this support changed with time?
8. Do the activities of your interest group contribute to the management of the Natura 2000 sites? Or do they conflict with Natura 2000 objectives?
9. What are your impressions of the discussions about the management of Natura 2000 sites? How do other organizations feel about these discussions?
10. Is your interest group formally involved in the management of Natura 2000 sites, and if so can you describe this involvement?

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- 1 *Wamelink, G.W.W., J.G.M. van der Gref-van Rossum & R. Jochem (2005). Gevoeligheid van LARCH op vegetatieverandering gesimuleerd door SUMO*
- 2 *Broek, J.A. van den (2005). Sturing van stikstof- en fosforverliezen in de Nederlandse landbouw: een nieuw mestbeleid voor 2030*
- 3 *Schrijver, R.A.M., R.A. Groeneveld, T.J. de Koeijer & P.B.M. Berentsen (2005). Potenties bij melkveebedrijven voor deelname aan de Subsidieregeling Agrarisch Natuurbeheer*
- 4 *Henkens, R.J.H.G., S. de Vries, R. Jochem, R. Pouwels & M.J.S.M. Reijnen, (2005). Effect van recreatie op broedvogels op landelijk niveau; Ontwikkeling van het recreatiemodel FORVISITS 2.0 en koppeling met LARCH 4.1*
- 5 *Ehlert, P.A.I. (2005). Toepassing van de basisvruchtbenadering op fosfaat van compost; Advies*
- 6 *Veeneklaas, F.R., J.L.M. Donders & I.E. Salverda (2006). Verrommeling in Nederland*
- 7 *Kistenkas, F.H. & W. Kuindersma (2005). Soorten en gebieden; Het groene milieurecht in 2005*
- 8 *Wamelink, G.W.W. & J.J. de Jong (2005). Kansen voor natuur in het veenweidegebied; Een modeltoepassing van SMART2-SUMO2, MOVE3 en BIODIV*
- 9 *Runhaar, J., J. Clement, P.C. Jansen, S.M. Hennekens, E.J. Weeda, W. Wamelink, E.P.A.G. Schouwenberg (2005). Hotspots floristische biodiversiteit*
- 10 *Cate, B. ten, H. Houweling, J. Tersteeg & I. Versteegen (Samenstelling) (2005). Krijgt het landschap de ruimte? – Over ontwikkelen en identiteit*
- 11 *Selnes, T.A., F.G. Boonstra & M.J. Bogaardt (2005). Congruentie van natuurbeleid tussen bestuurslagen*
- 12 *Leneman, H., J. Vader, E. J. Bos en M.A.H.J. van Bavel (2006). Groene initiatieven in de aanbidding. Kansen en knelpunten van publieke en private financiering*
- 13 *Kros, J. P. Groenendijk, J.P. Mol-Dijkstra, H.P. Oosterom, G.W.W. Wamelink (2005). Vergelijking van SMART2SUMO en STONE in relatie tot de modellering van de effecten van landgebruikverandering op de nutriëntenbeschikbaarheid*
- 14 *Brouwer, F.M, H. Leneman & R.G. Groeneveld (2007). The international policy dimension of sustainability in Dutch agriculture*
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- 16 *Dobben, H.F. van, G.W.W. Wamelink & R.M.A. Wegman (2005). Schatting van de beschikbaarheid van nutriënten uit de productie en soortensamenstelling van de vegetatie. Een verkennende studie*
- 17 *Groeneveld, R.A. & D.A.E. Dirks (2006). Bedrijfseconomische effecten van agrarisch natuurbeheer op melkveebedrijven; Perceptie van deelnemers aan de Subsidieregeling Agrarisch Natuurbeheer*
- 18 *Hubeek, F.B., F.A. Geerling-Eiff, S.M.A. van der Kroon, J. Vader & A.E.J. Wals (2006). Van adoptie tot duurzame stadswijk; Natuur- en milieueducatie in de praktijk*
- 19 *Kuindersma, W., F.G. Boonstra, S. de Boer, A.L. Gerritsen, M. Pleijte & T.A. Selnes (2006). Evalueren in interactie. De mogelijkheden van lerende evaluaties voor het Milieu- en Natuurplanbureau*
- 20 *Koeijer, T.J. de, K.H.M. van Bommel, M.L.P. van Esbroek, R.A. Groeneveld, A. van Hinsberg, M.J.S.M. Reijnen & M.N. van Wijk (2006). Methodiekontwikkeling kosteneffectiviteit van het natuurbeleid. De realisatie van het natuurdoel 'Natte Heide'*
- 21 *Bommel, S. van, N.A. Aarts & E. Turnhout (2006). Over betrokkenheid van burgers en hun perspectieven op natuur*
- 22 *Vries, S. de & Boer, T.A. de, (2006). Toegankelijkheid agrarisch gebied voor recreatie: bepaling en belang. Veldinventarisatie en onderzoek onder in- en omwonenden in acht gebieden*
- 23 *Pouwels, R., H. Sierdsema & W.K.R.E. van Wingerden (2006). Aanpassing LARCH; maatwerk in soortmodellen*
- 24 *Buijs, A.E., F. Langers & S. de Vries (2006). Een andere kijk op groen; beleving van natuur en landschap in Nederland door allochtonen en jongeren*
- 25 *Neven, M.G.G., E. Turnhout, M.J. Bogaardt, F.H. Kistenkas & M.W. van der Zouwen (2006). Richtingen voor Richtlijnen; implementatie Europese Milieurichtlijnen, en interacties tussen Nederland en de Europese Commissie*
- 26 *Hoogland, T. & J. Runhaar (2006). Neerschaling van de freatische grondwaterstand uit modelresultaten en de Gt-kaart*
- 27 *Voskuilen, M.J. & T.J. de Koeijer (2006). Profiel deelnemers agrarisch natuurbeheer*
- 28 *Langeveld, J.W.A. & P. Henstra (2006). Waar een wil is, is een weg; succesvolle initiatieven in de transitie naar duurzame landbouw*

- 29 *Kolk, J.W.H. van der, H. Korevaar, W.J.H. Meulenkamp, M. Boekhoff, A.A. van der Maas, R.J.W. Oude Loohuis & P.J. Rijk (2007)*. Verkenningen duurzame landbouw. Doorwerking van wereldbeelden in vier Nederlandse regio's
- 30 *Vreke, J., M. Pleijte, R.C. van Apeldoorn, A. Corporaal, R.I. van Dam & M. van Wijk (2006)*. Meerwaarde door gebiedsgerichte samenwerking in natuurbeheer?
- 31 *Groeneveld, R.A., R.A.M. Schrijver & D.P. Rudrum (2006)*. Natuurbeheer op veebedrijven: uitbreiding van het bedrijfsmodel FIONA voor de Subsieregeling Natuurbeheer
- 32 *Nieuwenhuizen, W., M. Pleijte, R.P. Kranendonk & W.J. de Regt (2007)*. Ruimte voor bouwen in het buitengebied; de uitvoering van de Wet op de Ruimtelijke Ordening in de praktijk
- 33 *Boonstra, F.G., W.W. Buunk & M. Pleijte (2006)*. Governance of nature. De invloed van institutionele veranderingen in natuurbeleid op de betekenisverlening aan natuur in het Drents-Friese Wold en de Cotswolds
- 34 *Koomen, A.J.M., G.J. Maas & T.J. Weijtschede (2007)*. Veranderingen in lijnvormige cultuurhistorische landschapselementen; Resultaten van een steekproef over de periode 1900-2003
- 35 *Vader, J. & H. Leneman (redactie) (2006)*. Draggers landelijk gebied; Achtergronddocument bij Natuurbalans 2006
- 36 *Bont, C.J.A.M. de, C. van Bruchem, J.F.M. Helming, H. Leneman & R.A.M. Schrijver (2007)*. Schaalvergroting en verbreding in de Nederlandse landbouw in relatie tot natuur en landschap
- 37 *Gerritsen, A.L., A.J.M. Koomen & J. Kruit (2007)*. Landschap ontwikkelen met kwaliteit; een methode voor het evalueren van de rijksbijdrage aan een beleidsstrategie
- 38 *Luijt, J. (2007)*. Strategisch gedrag grondeigenaren; Van belang voor de realisatie van natuurdoelen.
- 39 *Smits, M.J.W. & F.A.N. van Alebeek, (2007)*. Biodiversiteit en kleine landschapselementen in de biologische landbouw; Een literatuurstudie.
- 40 *Goossen, C.M. & J. Vreke. (2007)*. De recreatieve en economische betekenis van het Zuiderpark in Den Haag en het Nationaal Park De Hoge Veluwe
- 41 *Cotteleer, G., Luijt, J., Kuhlman, J.W. & C. Gardebroek, (2007)*. Oorzaken van verschillen in grondprijzen. Een hedonische prijsanalyse van de agrarische grondmarkt
- 42 *Ens B.J., N.M.J.A. Dankers, M.F. Leopold, H.J. Lindeboom, C.J. Smit, S. van Breukelen & J.W. van der Schans (2007)*. International comparison of fisheries management with respect to nature conservation
- 43 *Janssen, J.A.M. & A.H.P. Stumpel (red.) (2007)*. Internationaal belang van de nationale natuur; Ecosystemen, Vaatplanten, Mossen, Zoogdieren, Reptielen, Amfibieën en Vissen
- 44 *Borgstein, M.H., H. Leneman, L. Bos-Gorter, E.A. Brasser, A.M.E. Groot & M.F. van de Kerkhof (2007)*. Dialogen over verduurzaming van de Nederlandse landbouw. Ambities en aanbevelingen vanuit de sector
- 45 *Groot, A.M.E, M.H. Borgstein, H. Leneman, M.F. van de Kerkhof, L. Bos-Gorter & E.A. Brasser (2007)*. Dialogen over verduurzaming van de Nederlandse landbouw. Gestructureerde sectordialogen als onderdeel van een monitoringsmethodiek
- 46 *Rijn, J.F.A.T. van & W.A. Rienks (2007)*. Blijven boeren in de achtertuin van de stedeling; Essays over de duurzaamheid van het platteland onder stedelijke druk: Zuidoost-Engeland versus de provincie Parma
- 47 *Bakker, H.C.M. de, C.S.A. van Koppen & J. Vader (2007)*. Het groene hart van burgers; Het maatschappelijk draagvlak voor natuur en natuurbeleid
- 48 *Reinhard, A.J., N.B.P. Polman, R. Michels & H. Smit (2007)*. Baten van de Kaderrichtlijn Water in het Friese Merengebied; Een interactieve MKBA vingeroefening
- 49 *Ozinga, W.A., M. Bakkenes & J.H.J. Schaminée (2007)*. Sensitivity of Dutch vascular plants to climate change and habitat fragmentation; A preliminary assessment based on plant traits in relation to past trends and future projections
- 50 *Woltjer, G.B. (met bijdragen van R.A. Jongeneel & H.L.F. de Groot) (2007)*. Betekenis van macro-economische ontwikkelingen voor natuur en landschap. Een eerste oriëntatie van het veld
- 51 *Corporaal, A., A.H.F. Stortelder, J.H.J. Schaminée en H.P.J. Huiskes (2007)*. Klimaatverandering, een nieuwe crisis voor onze landschappen ?
- 52 *Oerlemans, N., J.A. Guldemond & A. Visser (2007)*. Meerwaarde agrarische natuurverenigingen voor de ecologische effectiviteit van Programma Beheer; Ecologische effectiviteit regelingen natuurbeheer: Achtergrondrapport 3
- 53 *Leneman, H., J.J. van Dijk, W.P. Daamen & J. Geelen (2007)*. Marktonderzoek onder grondeigenaren over natuuraanleg; methoden, resultaten en implicaties voor beleid. Achtergronddocument bij 'Evaluatie omslag natuurbeleid'
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