Stakeholder perceptions in relation to changes in the management of Natura 2000 sites and the causes and consequences of change

A survey in England, Flanders, France and the Netherlands

| WOt-rapport 128

I.M. Bouwma, J.L.M. Donders, D.A. Kamphorst, J.Y Frissel, R.M.A. Wegman,
H.A.M. Meeuwsen & L.M. Jones-Walters

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Abstract

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This report presents the result of an online survey amongst key-stakeholders involved in the management planning and management of Natura 2000 sites in in England, Flanders, France and the Netherlands. The survey was held in a total of 91 sites and resulted in 464 (fully or partially) completed surveys (response rate was 20%). Overall, the results of the survey indicate that perceptions of actors in the area differ among actor groups, especially in regard to statements that measure impacts or value judgements. This result underlines the importance of including a broad range of stakeholders in the policy evaluations of the management of the area. Overall, the differences between the geographical areas are small, except on topics related to the discussion between the government and involved stakeholders were a moderate difference was found. Also the status of prior designation has a small effect on how respondents view the discussion on management.

Keywords: Natura 2000, management, change, perception

Referaat

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Dit rapport geeft de resultaten weer van een enquête gehouden onder partijen betrokken bij het beheerplan-proces of het beheer van Natura 2000 gebieden in Engeland, Vlaanderen, Frankrijk en Nederland. De enquête is gehouden in 91 Natura 2000-gebieden en heeft in totaal 464 reacties opgeleverd (respons van 20 %). Het onderzoek laat zien dat de betrokken partijen verschillend denken over de gevolgen van het beleid, vooral als hen stellingen worden voorgelegd over de grootte van de impact van Natura 2000, of als hen over waardeoordelen wordt gevraagd. Dit onderstreept wederom het belang van het betrekken van verschillende partijen bij de evaluatie van beleid. In het algemeen waren de verschillen tussen Engeland, Vlaanderen, Frankrijk en Nederland gering. Het verschil is echter groter waar het onderwerpen betreft die te maken hebben met de discussie tussen overheid en betrokken partijen over het beheer. Ook het al of niet hebben van een beschermde status reeds voor de aanwijzing tot Natura 2000-gebied heeft een gering effect op het oordeel van respondenten.

Trefwoorden: Natura 2000-beheer, verandering, perceptie

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Preface

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Summary

This study reviews the perceptions of key stakeholders about the management of 91 Natura 2000 sites in England, France, Flanders and the Netherlands. The authors held a survey of stakeholders involved either in the governance structures which have been set up to develop management plans or in the actual management. In France, the Netherlands and Flanders, we approached parties involved in the development of the management plans (in France the members of the COPIL or *Comité de Pilotage*, in the Netherlands the members of the Steering Group and Advisory board or *Stuurgroep en Klankbord Groep* and in Flanders the members of the Consultation Groups or *Overlegplatforms*). In England no specific management planning process has been set up, so stakeholders involved in the actual management of the site were approached. 2342 key stakeholders involved in the 91 sites were requested to fill in the survey between March and May 2015. This was done by email (also by post in England and France), with one reminder. This process resulted in a total of 464 fully or partially completed surveys (response rate of 20%).

Whilst it is the largest survey of this kind, given the relatively low response of the parties involved in the survey and the limited number of sites reviewed (e.g. 17 in France), caution should be exercised when drawing far-reaching conclusions, specifically when extrapolating them to the management of Natura 2000 sites in the reviewed areas as well as to the EU generally.

The descriptive part of the research reviewed the perception of stakeholders on the impact of Natura 2000 designation and management of the site on the following issues:

- What are the changes in management of the area, according to key-stakeholders, since it has been designated as a Natura 2000 site, both overall and in terms of conservation measures?
- What are – according to the key-stakeholders – the main factors that influenced the management of the sites?
- How big a role did governmental measures to implement Natura 2000 play in the management of the site?
- What are the expectations of the socio-economic developments in these areas according to key-stakeholders and how will they impact the management of the future?

The research in particular reviewed the relationship between the perception of stakeholders on the impact of Natura 2000 designation and management of the site and four factors that might influence their perception:

- The actor group the respondent belongs to. Based on the survey results, six actor types were distinguished: 1) owners or representatives from the agricultural sector; 2) owners or representatives from the forestry sector; 3) owners or representatives from the nature conservation sector; 4) owners or representatives of users groups belonging to another sector; 5) governmental employees; and 6) other involved stakeholders.
- The geographical area of origin. Four geographical areas within the Atlantic biogeographical area, were distinguished being England, France, the Netherlands, and Flanders.
- The status of designation of the site before 1993[1]. Many Natura 2000 sites were already protected under national designation before becoming a Natura 2000 site.
- The area of the site in agricultural use.

The preliminary results of the study were reviewed in a workshop on the 8 July 2015 in which experts from the four countries and regions were present [2].

[1] IUCN category I - IV, based on information obtained from the Common Database of Designated Areas (CDDA), managed by the EEA

[2] A list of the representatives present can be found under ***Justification***

Overall, the results of the survey indicate that the perceptions of stakeholders differ between actor types (small to moderate effect of actor type), especially in regards to statements that measure perceived impacts or value judgements. Opinions differ on issues such as the (either or not) beneficial outcomes of the discussions on the management between the local stakeholders and the government on the management of the area, the impact of changes in the management for specific sectors, and whether or not the conservation measures are enough to ensure conservation of species and habitats.

The status of prior designation seems to have a small effect on how respondents assess the discussions on the management of the site with the government. Respondents from sites already or partly designated are more positive on the beneficial effects of the management discussion. Although the implementation in the four geographical areas is very different, overall only small differences between (the respondents' views in) the geographical areas are found in this survey. Only on topics related to the discussion between the government and involved stakeholders there is a moderate effect of geographical area. Differences in area under agricultural use in the four regions did not show a relationship with the perception of stakeholders on the impact of Natura 2000.

The result of this study underlines the importance of including a broad range of stakeholders in evaluations on the management of Natura 2000 areas. However, we experienced that a good representation of the stakeholders in the research is difficult. Firstly, this group is very diverse and therefore a large sample is required to reflect this diversity. Secondly, the management groups that are set up to discuss the management of the Natura 2000 sites often do not include the actual owners and users themselves but a representative of this group. Consequently, finding the contact details of many involved stakeholders including the actual users requires considerable resources.

Below the results for the specific research questions are outlined.

Change in use and management of the area
Stakeholders were asked which changes they perceived in the use and management of the area during the last 10 years. Overall the majority of respondents indicate that they notice an increase in recreational use of sites. In addition, a number of conversions from agricultural land, to urban functions as well as to (semi) natural land, have been observed. In respect to the current conservation management of the areas, the respondents perceive that the number of measures taken for habitats and species in Natura 2000 sites has increased since the start of discussion between the government and local stakeholders.

Overall the majority of the respondents (63%) perceived an increase in the number of measures taken in the sites for the species and habitats the site was designated for, following the discussion on management between the government and local parties. Only 3% reported a decrease. The opinion of respondents does not appear to be related to the actor group to which the respondents belong or to the reviewed geographical areas. When asked whether the current measures were considered sufficient to ensure the favourable conservation status of the species the area was designated for, 8% considered it more than sufficient, 35% sufficient, 15% neutral, 25% not sufficient and 7% very insufficient. Nine percent of the respondents did not know.

The opinion of respondents seems to be related to the type of actor group the respondents belong to. Overall, respondents from the nature conservation sector consider that the current measures are less sufficient whilst respondents belonging to the agricultural sector find them sufficient. The mean value of the first group is lower than of the respondents from agriculture, i.e. they consider that the current measures are less sufficient ($N=395$, $R^2=0.09$, $p<0.00$). It is important to note that the perception of the respondents was not compared with the actual state and condition of the species present in the site and therefore does not reflect the actual conservation status of the species in the site.

Key-factors influencing management and the effect of governmental measures
Around 20% of the respondents indicate that land prices and recreational use have had a high or very high impact on the management and use of the Natura 2000 sites. Almost 39% of respondents consider governmental measures, especially funding for management and legal regulations, to have had a very high to high impact on the changes in management of the areas.

In respect to the consultation process over the management of the site as a factor of change, 35% of the respondents felt that the requirement to develop a management plan had a high to very high impact. The opinion about whether in discussions on management all interests were given equal weight shows a very diverse and contrasting picture. 36% of the respondents indicate that all interests were not given equal weight and 29% indicate they were. Opinions also vary on the subject of other benefits of the discussion processes between the government and the involved parties on the management of the areas. More than 40% of the respondents agree with the statements that the local process has created support for the measures, increased co-operation and an increased the awareness of the European importance of the site. Although a majority perceives benefits from this process, respondents from the agricultural sector in particular see fewer benefits from the local discussion between the government and local stakeholders. In France, Flanders and the Netherlands the majority of these respondents is working as a representative of the agricultural sector. As only a few French respondents from the agricultural sectors participated in the survey this opinion is for mostly based on Flemish, Dutch and English respondents from the agricultural sector.

Expectations for the future

For the coming ten years respondents expect that land prices still will have the highest impact on the development of the area, followed by the price of agricultural products and recreational use. Asked about the impact of Natura 2000 designation and management on the future of the area, 44% of the respondents felt that Natura 2000 will have a very positive to positive impact on the local economy. Sixteen percent felt that it has a negative to very negative impact. The response depends on actor type – overall respondents from the nature sector indicate a more positive impact than respondents belonging to other sectors. Furthermore the majority of respondents (61%) felt the Natura 2000 designation will have a very positive to positive impact on the well-being of local residents. Seven percent felt that the Natura 2000 designation will have a very negative to negative impact on the well-being of local population.

1 Introduction

1.1 Background of the study

Every four years, the PBL Netherlands Environmental Assessment Agency, publishes a Nature Outlook as part of their legal obligation to report on the state and future of the Dutch Environment to the Dutch government. In 2016 the Nature Outlook will have a European focus, at the request of the department of Nature and Biodiversity of the Dutch Ministry of Economic Affairs.

Although the Outlook is looking towards the future, PBL also wanted to gain more insights into the current state of nature and the implementation challenges for EU biodiversity policy. As the Natura 2000 network of protected areas is the EU most important legal instrument addressing the management and land use for biodiversity, gaining more insight into how the Natura 2000 network has impacted on the management of the sites was considered important.

The activities in this study have therefore focussed on gaining insights into the views of stakeholders involved in the management of Natura 2000 sites, with a focus on the Atlantic region. In particular it is studied how stakeholders have perceived the impact of Natura 2000 on the management of the sites and what are their views for the future.

Focussing on the perception of stakeholders also mirrors the approach taken in the PBL's Nature Outlook in which perspectives for nature in the EU are developed based on the views, objectives and underlying nature related motivations of people, businesses and organizations. In consultation with PBL and after contacting several of the authorities responsible for the implementation of the Birds and Habitats directives at Member States in the Atlantic region it was decided to undertake a survey amongst involved stakeholders in four geographical areas in the Atlantic region of Europe. The countries selected were France and the Netherlands; and England and Flanders, which, whilst they operate as independent and distinctive entities in relation to the implementation of the EU nature legislation (and are therefore relevant subjects for this study) are in fact geographical areas within the United Kingdom and Belgium respectively.

At the same time that this research was undertaken, the European Commission DG Environment was undertaking the 'Fitness Check' of both Directives, whose main objective is to establish the success of the legislation in achieving its original goals of protecting special nature in Europe and to review the current relevance of those goals and associated objectives.

Compared to the Fitness Check the scope of this research is much more limited. The research is only reviewing the management issue of Natura 2000 sites and looking at four geographical areas. Nevertheless the study contains in-depth empirical evidence, which provides additional insights for the Fitness Check.

1.2 The EU's Natura 2000 network

The Birds and Habitats Directive form the cornerstone of Europe's nature conservation policy. It is built around two pillars: the Natura 2000 network of protected sites and the strict system of species protection. The Natura 2000 network was established under the Habitats Directive and comprises of sites designated as Special Areas of Conservation (SAC) under the Habitats Directive (1996) and Special Protection Areas (SPAs) under the Birds Directive (1992).

In the framework of the Directives a distinction is made between activities (including plans/projects) that might pose a threat to species and habitats and activities ('likely damaging activities') aimed to maintain or improve the conservation status of species and habitats ('conservation measures'). The favourable conservation status of the site (e.g. species and habitats) depends on both.

Whereas the site selection and designation process itself is strictly regulated, the Directives grants Member States considerable freedom in how to arrange the necessary conservation measures in Natura 2000 sites. The text of the Habitats Directive[3] provides the following guidance to Member States: *'for special areas of conservation the Member States shall establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the site or integrated into other development plans and appropriate statuary, administrative or contractual measures'* (Art. 6.1).
The Birds Directive only states that measures need to be taken without providing any guidance on which policy instruments to apply.

The implementation of the two Directives has not gone smoothly. Member States were initially slow in transposing the Directives into national legislation as well as in the process of identifying the sites (European Environment Agency 2005). Now the Natura 2000 network is almost completed and currently over 18% of the EU territory is part of the Natura 2000 network (European Commission 2014).

The process of site designation has created much controversy, especially from owners and businesses fearing the impact of the designation for their everyday use of the area. At the same time there is growing evidence that Natura 2000 sites act as a positive force for regional development (Kettunen *et al*. 2009); (ARCADIS *et al*. 2011). The areas themselves are often attractive environments with high potential for recreation and tourism and many EU subsidies are targeted towards them.

At the EU level and at the national level attention is turning to the issue of use of the sites and the surrounding area ('management in the broad sense'). In several Member States specific subsidies and management plans were developed to ensure the management of the sites (Bouwma *et al*. 2015).

1.3 Research question

What the effects of Natura 2000 sites designation have been on the management of the areas and how the designation will shape the future development of specific areas and regions will, largely, depend on:

- The past, current and future pressures exerted on the area. These pressures influence on the one hand the number of damaging activities that occur in the area. On the other hand they also influence the likelihood that the management of the area is in line with the required conservation measures.
- The policy measures taken by the authorities to ensure that the required conservation measures are taken in the sites.
- How local stakeholders have responded to both of the above mentioned influences and will respond to the way that Natura 2000 affects them.

In many countries, the first round of management planning of Natura 2000 sites is still underway and none of the countries involved has already evaluated management plans drafted for Natura 2000 sites. It is therefore very difficult to make a purely paper-based evaluation of the actual changes in management that may have taken place since the designation of Natura 2000 sites. Nor do sufficient monitoring data on many sites exist that would allow the assessment of the ecological effectiveness of the measures taken. Furthermore, in many sites a comparison of a change in management practice and the associated ecological effects will remain difficult as in many areas no good information is available about the management practices prior to designation of the area as Natura 2000. The European State of the Nature report shows that for species that have a high coverage by the Natura 2000 sites the favourable conservation of species and habitats appears to be better than those with a low coverage(European Environmental Agency 2015).

[3] Council Directive 92/43/EEC

In this research, we start from the premise that presently the discussion on the impact of Natura 2000 on the management of the sites is still primarily based on the perception of the involved stakeholders. In order to analyse the possible impact of Natura 2000 on the management of the areas, an international survey amongst involved stakeholders was undertaken to assess how involved stakeholders, until now, have perceived the impact of Natura 2000 designation on the management of the sites, overall changes in management of the sites and to which causes they attribute these changes.

Another reason for focussing on the perception of stakeholders is that in the phase of designation amongst stakeholders much apprehension existed towards the implication of the designation for the management of the sites. In several European countries considerable resistance occurred against designation resulting in protests and law suits (Alphandéry and Fortier 2001; Hiedanpaa 2002; Bryan 2012; Beunen *et al.* 2013). Now that the countries are in a phase of management planning it is interesting to see whether stakeholders still perceive Natura 2000 as an impediment to their activities and for the future of the area.

The survey was developed to answer the following main research question:
In which way did Natura 2000 influence the management according to key stakeholders involved in the management (planning) process of the site so far and what are their expectations for the future?

In order to answer this question we specifically want to know:
- What are the changes in management of the area, according to key-stakeholders, since it has been designated as a Natura 2000 site, both overall and in terms of conservation measures?
- What are – according to the key stakeholders – the main factors that influenced the management of the sites?
- In how far did governmental measures following the Natura 2000 designation play a role?
- In which way did the institutional context of the site contribute to the perception of key stakeholders until now?
- What are the expectations for the socio-economic developments in these areas according to key-stakeholders and how will they impact on the management of the future?

Besides these more descriptive questions we also wanted to review possible factors that might explain the perception of stakeholders. Based on the research framework developed (Chapter 2) we reviewed the influence of four factors on the perception of the surveyed stakeholders being:
- the actor group the respondent belonged to;
- the geographical area of origin;
- the status of designation of the site before 1993;
- the area of the site in agricultural use.

1.4 Outline of the report

In Chapter 2 the theoretical framework underlying the research is presented. Based on existing literature on the implementation of Natura 2000, protected areas and land use change various factors that might influence the perceptions of stakeholders are described.

In Chapter 3, the Natura 2000 in the four researched (geographical) areas are characterised based on number, size, land cover and history of conservation in the areas. Furthermore the process of management planning is described. In Chapter 4 the survey method is outlined and in Chapter 5 the results of the survey are presented. The report ends with a general discussion of the results and conclusions (Chapter 6 & 7 respectively).

2 Research framework

There are many factors that might influence the perception of the involved stakeholders about the impact of Natura 2000 for a specific area. The setting in which the management of Natura 2000 sites takes place has a multilevel and multi actor character. National policies of site designation and the instruments chosen for implementation will have their impact on the local situation in and around the site, the local context of the site will influence the perception of local stakeholders and the sum of all local situations will have had impact on national designation and implementation choices. Based on existing literature five factors have been identified that might influence how stakeholders perceive the changes that Natura 2000 has brought to the management of the areas which will be described in the following sections.

2.1 Characteristics of the stakeholders involved in site management

One of the factors determining the perception of stakeholders of the management of the areas is the type of actor, for example: landowners, nature managers, farmers or stakeholders of economic sectors using the areas. The type of actor affects the attitude of stakeholders towards Natura 2000, the changes they perceive in the area and to which factors they contribute these changes. In general private landowners and business owners are less satisfied with the Natura 2000 designation, as they expect the designation would restrict their freedom in management (Pietrzyk-Kaszyńska *et al.* 2012). But amongst private owners there are differences in the way they are willing to adapt their management of the site to Natura 2000 requirements. This willingness might vary depending on the activities required, the activities already taken for nature conservation in their management or their business perspective (Schenk *et al.* 2007).

Case studies show that local governments vary in their opinion on the impact of Natura 2000 (Wendler and Jessel 2004; Sumares and Fidélis 2009; Grodzinska-Jurczak and Cent 2011) whilst regional and national governments and environmental NGO were overall in support of the network (WWF 1999; WWF 2009; EEB 2011; Cent *et al*. 2013).

2.2 History of nature conservation in the sites

There is a large variation in the history of nature conservation management of the Natura 2000 sites designated. Although the majority of Member States already used the instrument of legal designation to ensure conservation of nature sites prior to 1992, the extent of protected areas and the restrictions the legislative designation encompassed varied in the different countries (Gaston *et al*. 2008). Figure 1 shows that the surface of Natura 2000 areas already protected before 1992 under national designation varies for the countries in the Atlantic region.

Wendler and Jessel (2004) showed that in already protected areas, stakeholders in general were less apprehensive of the effects of Natura 2000 in their area. Furthermore, the extent to which Natura 2000 designation requires a change in the extent of damaging activities or conservations measures to be taken depends on the current land use and recent land use change as well as the plans and subsidies already in place prior to Natura 2000. Overall in sites already designated prior to Natura 2000 the likelihood that damaging activities were forbidden and that conservation measures were in place is higher and thus change required to the management might be less. In areas under intensive agricultural or forestry management the likelihood that damaging activities are taking place is higher and adaptation of management might be larger. In particular the conflict between more intensive agriculture – and nature has been pronounced over the last decades. Still, it might be easier to incorporate new or more measures in areas already designated than in areas not previously designated.

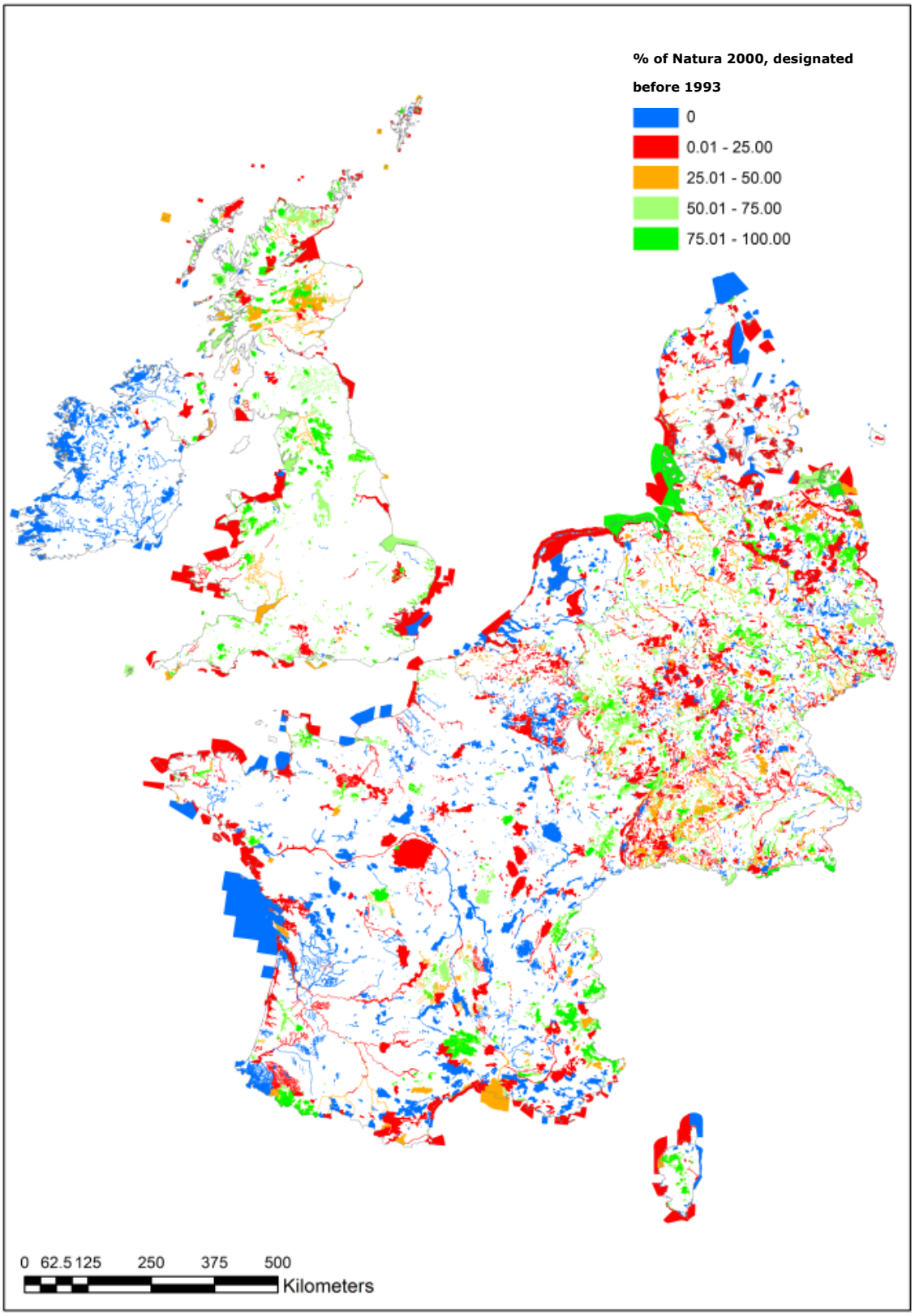


Figure 1. *Percentage of the surface of the Natura 2000 sites already protected prior to 1992 in countries in the Atlantic region (excluding Spain and Portugal). This map was developed with the use of the Common Database on Designated Areas (CDDA) of the EEA. The CDDA database holds information on all nationally protected sites in Europe. The percentage designated prior to 1993 was calculated by overlaying the Natura 2000 sites on sites already nationally protected before 1993. Only sites with IUCN class I-IV and year of designation before 1993 were selected.*

2.3 Drivers of land use change

Socio-economic developments such as population growth, urbanisation and agricultural developments have an impact on land use in Europe. Prevalent social and political conditions can form impediments for the management success of protected areas (Hirschnitz -Garbers and Stoll-Kleeman 2011). The SOER 2010 list various major drivers of land use change in the European Union being:

- Overall population growth combined with increased urbanisation leads to migration to cities as well as depopulation of rural areas;
- Increased demand for agricultural products for food production and bioenergy production affects agricultural prices;
- Both urbanisation and increase in agricultural production lead to increasing land prices;
- Climate change leads to changing agricultural practices and water management practices to avoid drought and floods;
- Increased demand for recreational activities and leisure time leads to increase in recreational facilities and recreation in areas.

Previous studies on pressures on Natura 2000 sites show that urbanisation and increase in intensive agriculture are main pressures on the Natura 2000 sites. But the impact of these different drivers and pressures on Natura 2000 sites can vary depending on the local context of the site. Furthermore whether stakeholders subscribe the changes in management towards these pressures will depend on the knowledge of the stakeholders of the drivers and pressures and the likely impact on the site.

2.4 National policy context and local implementation process

Member states have chosen different ways to arrange the management of the sites. The requirement to undertake a planning process, the allocation of financial subsidies for private owners to undertake conservation measures and the legal regulations in place to regulate damaging activities vary between the different EU member states. In several member states dedicated planning processes for Natura 2000 sites were started to develop management plans. In many cases these processes were undertaken in a participatory manner, including participation of a wide range of stakeholders. Also in some countries additional or dedicated funding was made available for the management (Bouwma *et al*. 2015).

The national policy towards management planning and funding therefore will also influence the perception of stakeholders on the impact of Natura 2000. Furthermore there are distinct differences in the history of site designation and management of protected areas - in particular the approach towards stakeholder involvement and participatory planning (Stoll-Kleemann *et al*. 2006; Rausch-mayer *et al*. 2009; Beunen and De Vries 2011) as well as the level of conflict between the nature sector and other sectors in different EU countries (Stoll-Kleemann 2001; Bogaert and Gersie 2006).

How the national policy is implemented depends furthermore on local implementation processes. The success of policy instruments depends on how they are implemented at the local level. How the process of management planning is organised locally will effect whether stakeholders are included (Alphandéry and Fortier 2010; Beunen and De Vries 2011). Whether stakeholders are able to access the available national or regional subsidies might also depend on their knowledge of the subsidy schemes available as well as the (local) support provided towards local stakeholders.

2.5 Factors reviewed

Figure 2 provides a schematic overview of the various factors, the level they apply to and their possible interactions. Although the aim of the study is to a large extent descriptive e.g. to assess the overall perception of involved stakeholders in a selected number of Natura 2000 sites in the four geographical areas, the study also tests the validity of some of the presented factors in this chapter on what might influence the perception of changes in management amongst involved stakeholders.

We examine whether the perceptions of stakeholders differ among the geographical areas, the Natura 2000 sites or the types of actor involved. Based on the presented factors we would expect to find the following:

- differences between the perceptions of the stakeholders, according to their types;
- differences between the perceptions of stakeholders in different sites due to differences in current land use and history of site designation;
- differences in perception of stakeholders between the four geographical areas.

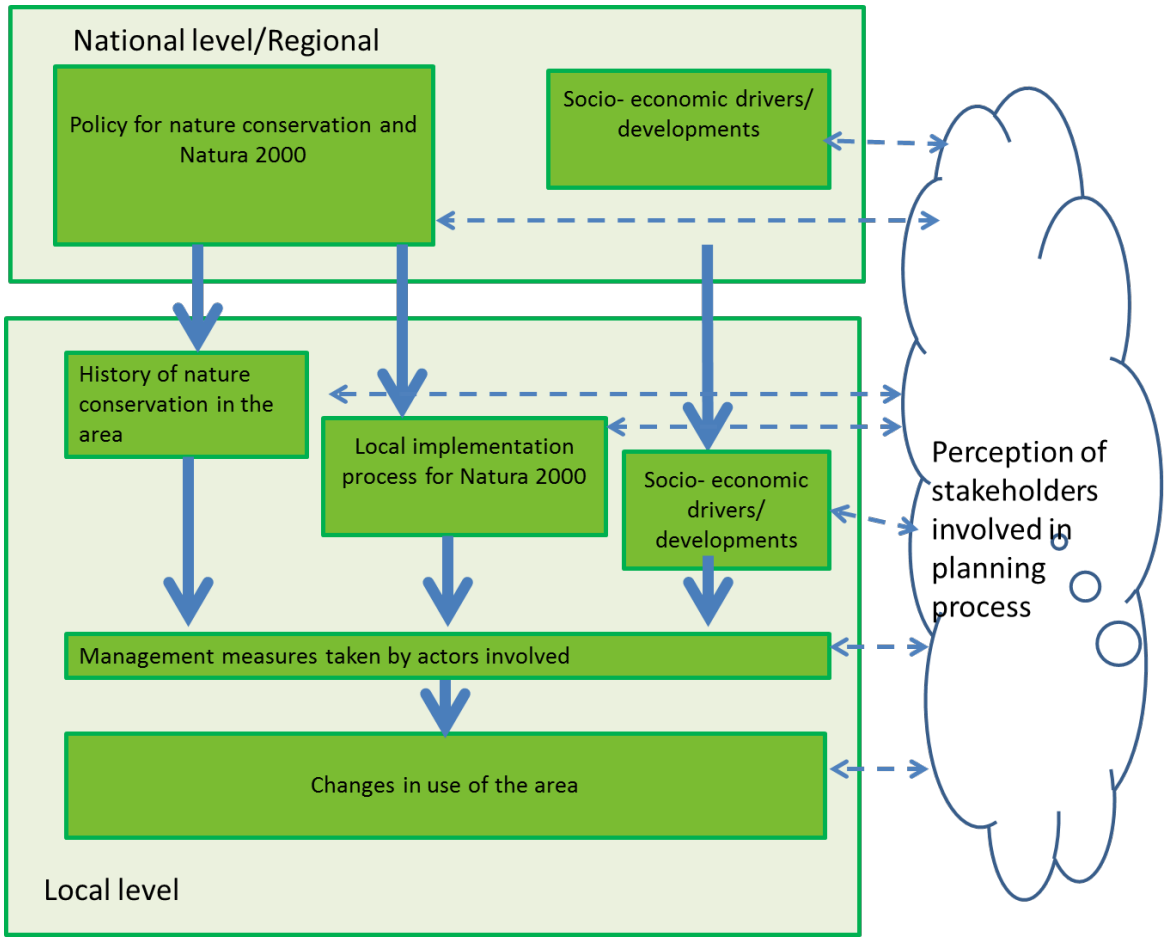


***Figure 2**. Interaction between the factors influencing the management of the area and the perception of involved stakeholders. In some Member States the regions are responsible for developing the policies, in other countries their role is restricted to implementing the national policy.*

3 Natura 2000 in the selected geographical areas

3.1 Introduction

This chapter describes both the policy for management of the Natura 2000 sites in the four geopolitical areas as well as the general characteristics of the sites in these areas. Although the Birds and Habitats Directive set the criteria for the designation of Natura 2000 sites and the process of designation has been subject to a scientific review process there are considerable differences in the size and type of the Natura 2000 sites designated in the four areas. Some of these are the result of differences in land use, others result from the different approaches taken by countries for designation.

Furthermore the Directives grant Member States considerable freedom in how to organise and arrange the necessary conservation measures in Natura 2000 sites. The text of the Habitats Directive provides the following guidance to Member States: *'for special areas of conservation the Member States shall establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the site or integrated into other development plans and appropriate statuary, administrative or contractual measures' (Art. 6.1).* As a result the way Member states are ensuring that the management measures are taken varies across the EU.

In Section 3.2 a short comparative overview is presented of the main characteristics of Natura 2000 sites in the four researched geographical areas: the Netherlands, England, France and Flanders. The characteristics reflect the five factors described in the research framework. In Section 3.3 a short description is given of the implementation process of the Birds and Habitats Directive related to the management of the Natura 2000 sites being the development of management plans and the availability of subsidies for management.

3.2 Natura 2000 site characteristics in the four geographical areas

3.2.1 Number and size of Natura 2000 sites

Table 1 presents the number of Natura 2000 sites in the studied geographical areas within the Atlantic region. Of the studies areas only the territory of France covers different biogeographical regions (e.g. the Alpine and Continental and Mediterranean region).

Table 1.
Number of Natura 2000 sites in the studied geographical areas. France includes only sites from the Atlantic region; the marine sites are excluded in all areas) (Source: England: https://www.gov.uk/government/publications/improvement-programme-for-englands-natura-2000-sites-ipens; Alterra GIS data base Natura 2000 sites, http://www.natuurenbos.be; Ministère de l'Ecologie et du développement durable)

Country	Number of Natura 2000 sites
Netherlands	162
Flanders	62
England	338
France	697

Figures 3 and 4 presents the size of the Natura 2000 sites in the studied areas. One of the complexities in assessing the size of the areas is that the digital information is available for Birds and Habitats Directive separately. However in many cases there is considerable overlap between these

areas. In order to avoid double counting and calculate the statistics for the different countries, the sites were merged in case of overlap. Figure 4 shows that England has designated the smallest sites (< 100 ha). One should keep in mind that the largest sites often consist of various separate sites. Especially in Flanders this is the case.

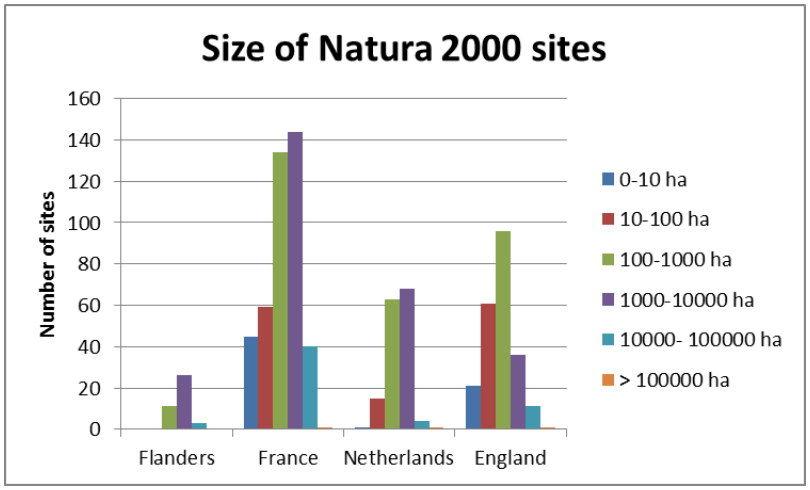


Figure 3. *Size shares of the Natura 2000 sites in the four geographical areas (total number of sites).*

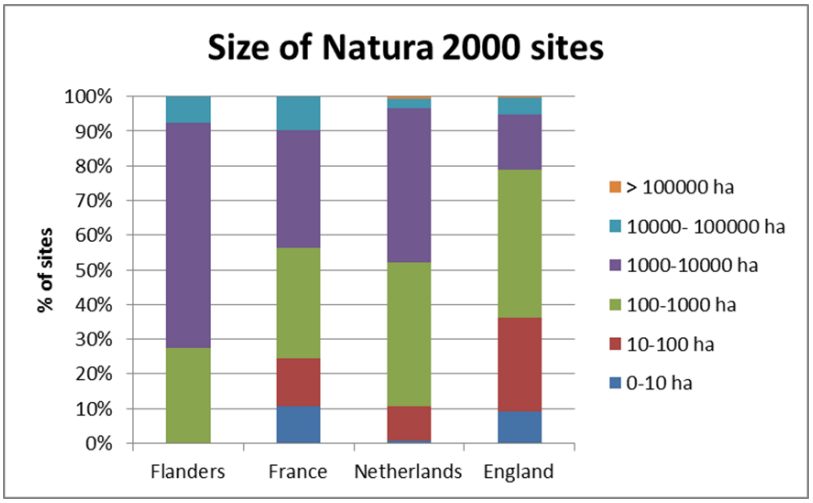


Figure 4. *Size shares of the Natura 2000 sites in the four geographical areas (in percentage).*

3.2.2 Agricultural use and land cover change

The land cover in the Natura 2000 sites differs in the regions. Figures 5 and 6 shows that France has the most sites with a high percentage of agricultural use, followed by England, the Netherlands and France. An analysis based on the Corine Land Cover data[4] in the period 2000-2006 was undertaken to assess whether there has been considerable land use change in the Natura 2000 sites. Overall the changes were limited (Figures 7 and 8), only in a few sites considerable land use change impacting on more than 5% of the area of the sites was found. Especially in the Netherlands in several sites land use intensity appears to be increasing.

[4] Corine Land Cover 2000 - 2006 changes. Version 17 (12/2013) - Vector and Raster data about changes between the CLC2000 inventory and the CLC2006 inventory

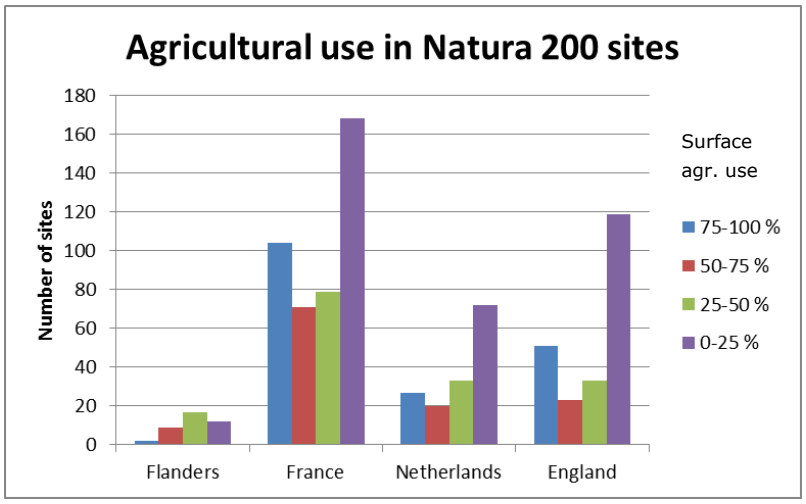


Figure 5. *Agricultural use in the Natura 2000 sites in the four geographical areas (total number of sites)*

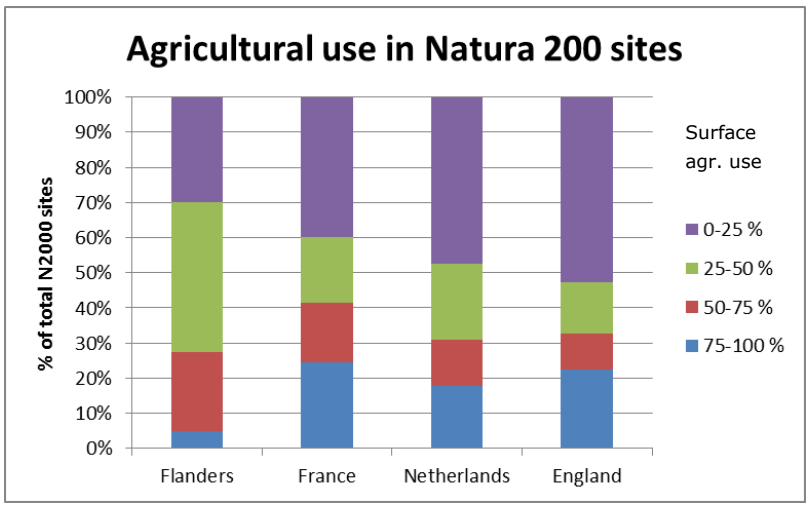


Figure 6. *Agricultural use in the Natura 2000 sites in the four geographical areas (in percentage)*

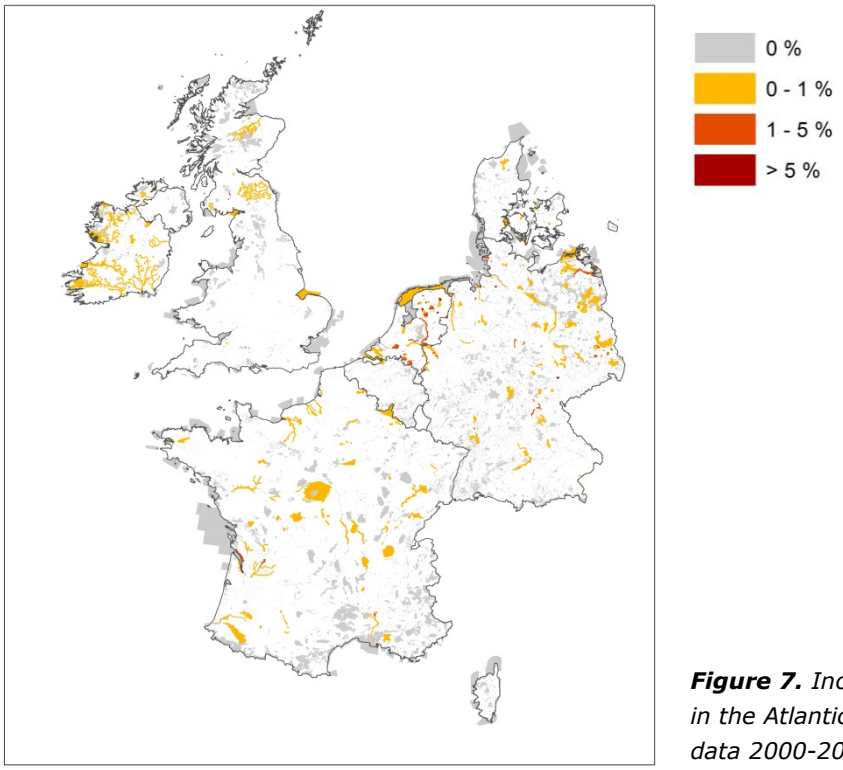


Figure 7. *Increase in land use intensity in the Atlantic region (based on CLC data 2000-2006)*

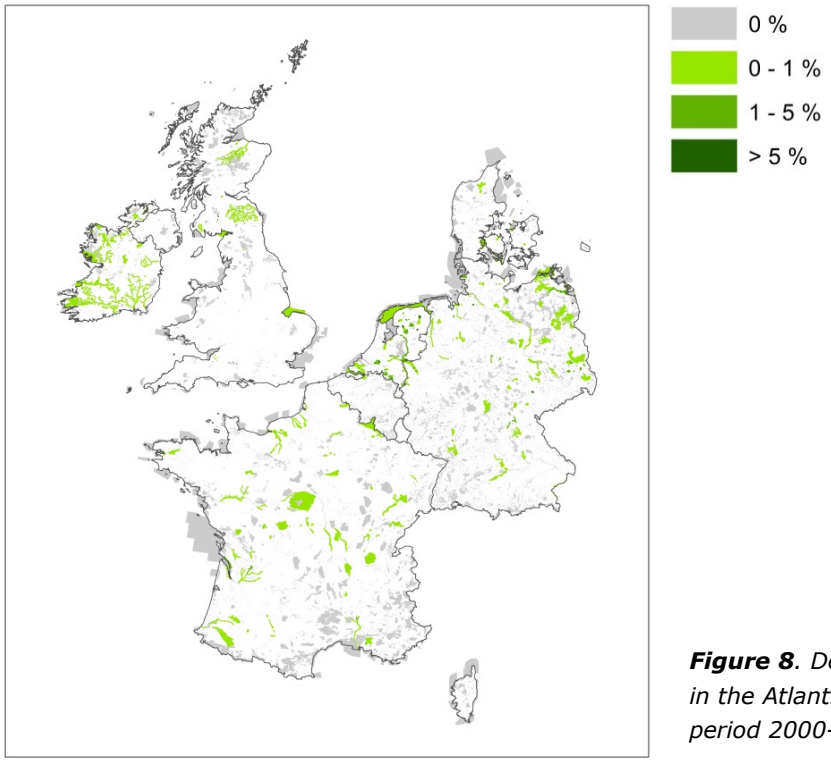
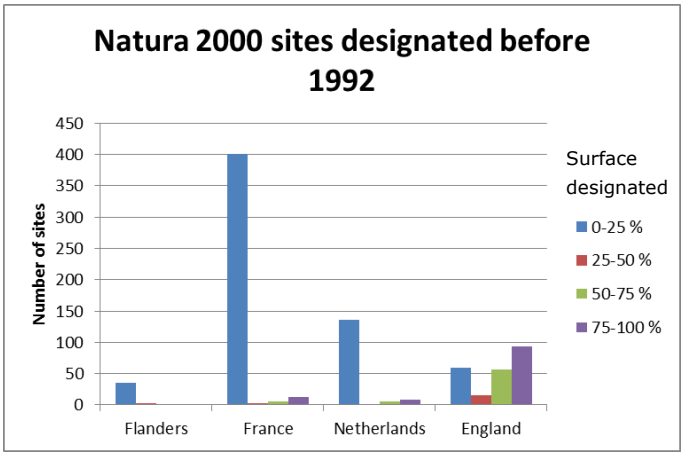


***Figure 8**. Decrease in land use intensity in the Atlantic region (based on CLC data period 2000-2006)*

3.2.3 Surface designated prior to Natura 2000

Figure 9 present the surface of the Natura 2000 sites which were already protected under national law prior to their designation as a Natura 2000 sites. The figure shows that in England the majority of the sites were already (partly) designated under national law whilst in Flanders the majority of the sites was not yet designated under national protected area law.



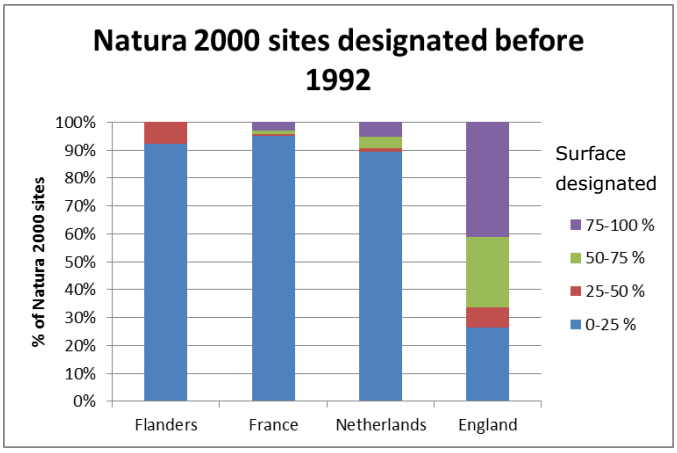


***Figure 9.** Designation status of Natura 2000 sites prior to 1992 in the four geographical areas (based on the CDDA database, IUCN classes I-IV)*

3.3 Policy for management of Natura 2000 in the four geographical areas

In three of the four reviewed areas being France, Flanders and the Netherlands a formal decision has been taken to develop management plans for Natura 2000 sites. In France and the Netherlands these plans are developed for all sites, in Flanders for sites falling under the Habitats Directive, including those sites of the Birds Directive that have considerable overlap with sites designated under the Habitats Directive. In England no obligation has been set to develop management plans for the Natura 2000 sites.

Process of management planning in France

The management plans in France are called DOCOB ('Document des Objectives, DOCOB'). In France the process has started in 2000 (Alphandéry and Fortier 2010) and at present for many of the sites the management plans have been concluded. A guideline is available on both the content and how to organise the process of the development of these management plans (Souheil *et al*. 2011). DOCOBs are prepared under the responsibility of the Prefect of each Department, assisted by a facilitator and with full stakeholder participation, according to the following procedure:

- A facilitator drafts the management plan in cooperation with the steering committee and is responsible for the implementation of the plan; the facilitator is called operateur - Steering committee and working groups meet periodically, once the committee has reached its final decision, the management plan is passed on to the Prefect (State) for approval.
- Technical studies are executed to specify ecological and socio-economic characteristics of the sites.
- Management and conservation objectives and their implementation by specific contracts are negotiated in the steering committee with private landowners (or users) with the help of the facilitator (called animateur). The State will fund the contracts after approval.

Once the DOCOB is approved, landowners or users can accept the provisions of the management plan by entering into different types of contracts, signed by the Prefect (the State) for a minimum of five years. They include specification of the work to be carried out to conserve or restore habitats and species, the nature of funding from the State and the conditions of the payments. State funding can be in the form of investment subsidies or annual payments per hectare.

Process of management planning in the Netherlands

In the Netherlands the decision to draft management plans is incorporated in the law (Natuur-beschermingswet 1998). The responsibility for drafting the management plans is divided amongst fifteen different parties being the Ministry of Economic Affairs, Ministry of Defence, the Ministry of Infrastructure and the Environment or one of the 12 regional governments. Like in France also in the Netherlands there is a guideline on the content and drafting process of the management plan (Ministerie van LNV 2005). The organisation responsible for the drafting process provides the person(s) that will draft the plan (either their own staff or commissioned). In most sites, a Steering Group has been established in which the main stakeholders in the area are represented as well as a *Klankbord Group* that encompasses a larger group of involved stakeholders. The process in the Netherlands started in 2008/2009, the majority of the plans will be officially approved in 2015 and 2016.

Process of management planning in Flanders

In Flanders before commencing the process of management planning regional objectives were agreed upon in 2010 as well as a further detailing of the regional objectives for the sites (in 2014). The actual process of management planning started at the end of 2014/ beginning of 2015. For each of the Natura 2000 sites falling under the Habitats directive an *Overlegplatform* has been established that comprises of the majority of stakeholders. In the first phase of the management planning process an inventory is made of the relevant conservation measures taken for nature in the framework of existing contracts and agreements (the so called 'evidentiefase'). Based on the information gathered in this phase a discussion on additional measures required will start.

Management planning in England

In England no specific management planning process for Natura 2000 sites is foreseen. As indicated in Section 3.2.3 many of the sites already were designated prior to Natura 2000. In the majority of these sites management plans or management contracts were in place to ensure the management of the sites. At the end of 2012 a decision was taken to start the Improvement programme for England's Natura 2000 sites (IPENS). For each of the sites a Site Improvement Plans would be developed, these do not constitute official management plans, they outline the priority measures needed to achieve and maintain the European species and habitats within a site in favourable condition. They describe the issues affecting the conditions of the sites, priority actions, partners and identify the potential funding sources available. At present for the majority of the sites Site Improvement Plans have been developed[5] .

Until now only in France (in the process of DOCOB) funding sources have been earmarked for the management of Natura 2000 sites. In the other three countries conservation measures in Natura 2000 sites are financed from the existing budget for nature conservation management available for the management of protected areas or areas with high nature values for the state or for private owners or environmental NGO's.

[5] https://www.gov.uk/government/publications/improvement-programme-for-englands-natura-2000-sites-ipens

4 Survey method

4.1 Introduction

Different methods exist to undertake a research into the perceptions of key stakeholders in relation to particular policies. Overall methods are categorised in more quantitative research (e.g. in-depth interviews, document analysis or ethnographers or participant-observers) or more qualitative (e.g. data analysis, models and surveys) (Fischer and Miller 2006). At the beginning of the research a choice was made to use a survey method primarily because of the large number of Natura 2000 sites in the reviewed geographical area as well as the variance between the sites.

Surveys are regularly used to assess various aspects of policy processes including the opinion of stakeholders with regards to its implementation (Leach 2002; Mitchell 2007). From the different survey methods a self-administered on-line survey was chosen due to the number of stakeholders involved as well as the cross-country aspect.

In this chapter the survey method is outlined. It begins by describing the process of site selection in Section 4.2, followed by the procedure for selecting respondents (Section 4.3). In Section 4.4 the process of survey design and testing is described. In Section 4.5 information on the statistical analysis is given.

4.2 Site selection

As our primary objective was not only to assess the views of a broad range of stakeholders but also to determine if the perception of stakeholders differs between sites and/ geographical area sites, needed to be selected that varied in context. Therefore a stratified random sampling procedure was used. Based on the results of the statistical analysis and the hypothesis underlying this study the following three criteria were used to select the sites that would participate in the survey:

- geographical area;
- designation status prior to 1992;
- surface in agricultural use.The latter was considered as an indication of the surface of the area in private ownership.

The research did not use ecological criteria (such as the types of habitats or species for which the site is designated), because land use was considered a more important aspect for selecting sites in which a broad range of stakeholders would be involved.

Based on European wide available data on designation status before 1992 (CCDA database held by EEA) and agricultural use (based on Corine Land Cover 2000-2006) the percentage of area under agricultural use and the percentage of the site already designated before 1992 was calculated (both values range from 0-100%) (see Chapter 3). In case sites were overlapping, sites were combined to calculate the information.

The CDDA database holds information on all nationally protected sites in Europe. The percentage designated prior to 1992 was calculated by overlaying the Natura 2000 sites on the sites already nationally protected before 1993. Only sites with IUCN class I-IV and year of designation before 1993 were selected. In the Netherlands and Flanders the protection through spatial planning provided by the Ecological Main Structure was excluded as the area has no IUCN classification. In Annex 1 for the selected sites the IUCN classification and the correspondence with national designation is provided.

In order to ensure a broad range of stakeholders a size criterion was set. All sites of which the surface was between 1000-10000 hectares were included in the selection. Sites smaller might not contain all stakeholders – sites larger might pose difficulties for stakeholders to assess the changes that had happened in the whole area.

Given the skewed distribution of the values for designation and agriculture, sites were not randomly selected but a procedure of oversampling was used.

The sites of all countries were clustered; to avoid too many clusters we divided the sites in nine groups using the tertiary. This means that the value that determines to which cluster a site belongs is chosen in such a way that approximately one third of the sites are in each group. However as the values of the sites were rather skewered it was not possible to create nine groups with exactly the same number of sites. In a next step sites from each country/region were selected. In principle, three sites from every cluster sites were selected – in case this was not possible (in some countries clusters are empty) a site from another cluster was selected.

In a next step the selected sites were reviewed. Sites were excluded in case:
- the site was only designated for one Natura 2000 species or habitat;
- the site consisted of various dispersed sites that formed no ecological unit or management planning unit and within the site no smaller management unit could be identified;
- no local contact person was present to assist in the research (France);
- the local contact person did not want to provide the names of involved parties (France, NL).

In the end a total ranging between 18 and 27 sites per geographical area were involved in the research (see Annex 1, Figure 10). Especially the selection process in France was complex as it relied on the presence of a local contact person and co-operation of local contact persons in providing the names. Despite considerable effort in approaching local animateurs or operateurs only 18 sites in the end participated in the research.

During the workshop some questions were raised in respect to other possible site selection criteria such as the date of designation of the area or the data of completion of the management plan. There were two reasons for not using these as selection criterion. First of all, in the four reviewed countries there are great differences when the discussion with local stakeholders was initiated and the official deadlines of designation and approval of management plans.

In the majority of the Dutch sites management planning commenced after the draft decision on designation was published and approximately four to five years prior to the official final designation. The discussion on management planning started in most sites in 2009 but the official approval of many of the plans only occurred in 2015/2016.

In the Flemish sites conservations objectives were discussed prior to development of the first part of the management plan (version 1.0). Now a follow-up of this planning process is ongoing.

In France some sites were designated before management planning commenced, others after the management plan was produced.

In England many sites were already designated as SSSI and no 'new' designation act has been issued since it became a Natura 2000 site.

Secondly, the information on data of designation and date of management planning is not available for all sites[6].

[6] In the EU Natura 2000 database the respective field for designation data is often empty, no field is indicated for management plans

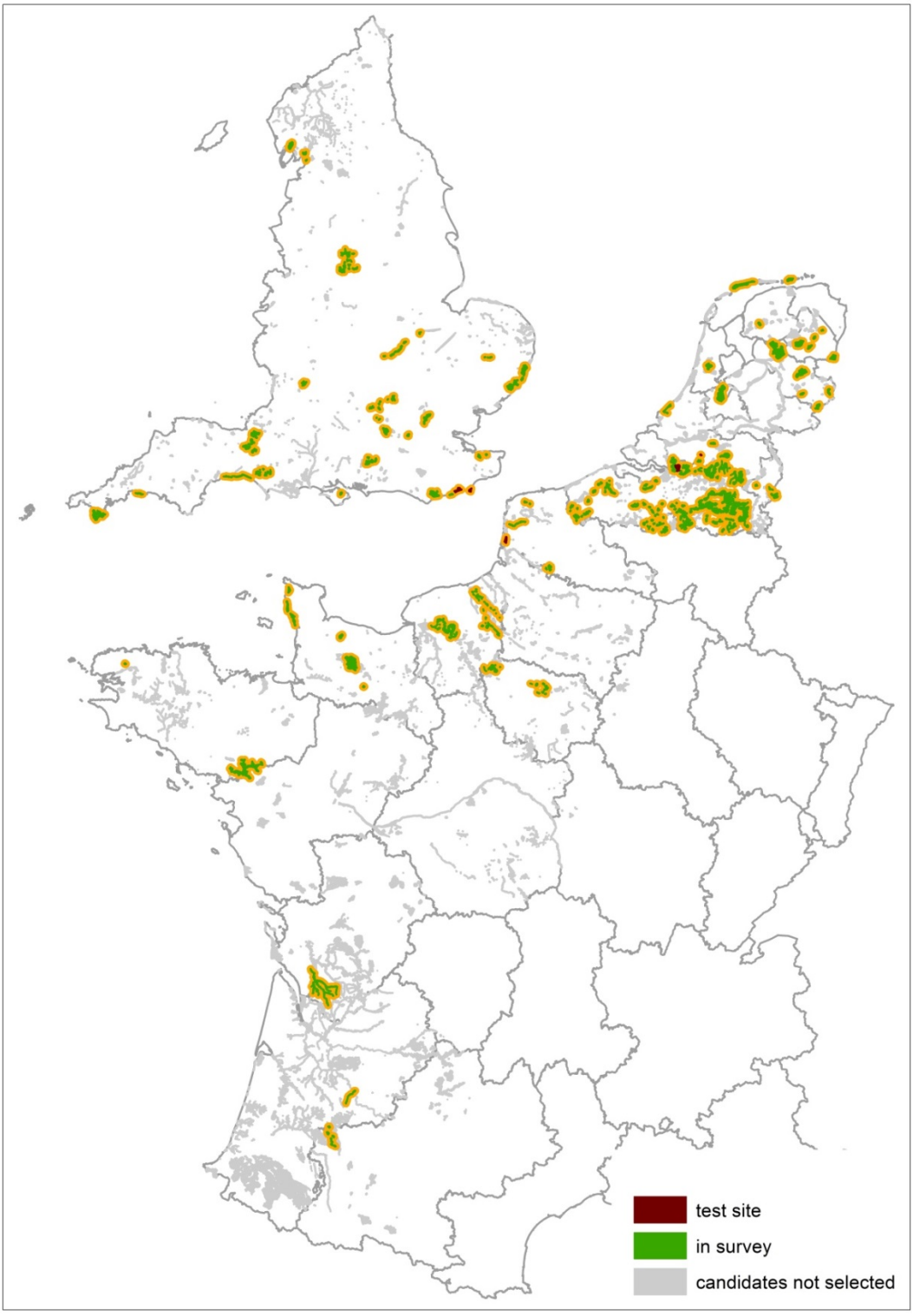


Figure 10. *Sites selected in the four geographical areas (the border of the Natura 2000 sites are highlighted in yellow in order to increase visibility)*

4.3 Selection of respondents

In cross country survey the selection of the respondents is a challenging part of the research (Harzing *et al*. 2013). Particular in this case as we required people who were knowledgeable on the management of the selected areas, the Natura 2000 management processes and the changes taking place in these areas.

In general we had the following criteria for the selection of stakeholders:

- People who were either involved in management planning processes or, in case there was no process, involved in the actual management.
- For each of the selected sites we wished to contact key stakeholders from a number of defined groups. These should include a range of stakeholders from different sector groups, such as nature conservation, agriculture, forestry and government officials.

In France and the Netherlands, it was decided to approach people in the management committees (COPIL in France, Stuurgroep en Klankbordgroep in NL). As for some sites similar people were involved– especially from regional administrations or water boards– some respondents were asked to complete more than one survey.

As in Flanders these committees were just being formed and the research should not create confusion in the process that was just starting up, in consultation with the Ministry it was decided to approach the groups present in these committees and ask them to provide names for respondents for the selected sites. For governmental officials the list developed for the *Overlegplatforms* was used. However for several sites similar contact persons were suggested, in some instances the contact person would ask someone else to fill in the survey; in a few instances respondents filled in more than one survey.

In England as no formal process of writing management plan existed there were, therefore, no committees. Natural England was therefore asked to provide a list of the involved stakeholders in England. Criteria for the selection of respondents were stakeholders who fall into one of the following four categories:

- public bodies (e.g. government departments or local councils);
- registered companies;
- landowners who are in agri-environmental agreements under which they receive an average of more than €1,250 per annum in EU or state aid;
- landowners who are in certain specific agreements under which they have agreed to their details being revealed.

As in England the number of addresses received from public bodies and conservation NGO's was low compared to the other countries, the original list was compared with the parties mentioned in the Site Improvement Plans for the specific sites. On the basis of that the Forestry Commission, Environment Agency and the Royal Society for the Protection of Birds were approached to provide additional names.

Although in all countries we selected respondents who were knowledgably on the Natura 2000 sites - there are differences in the respondents approached in the different sites – as a result of the differences in the governance structure of the management planning process in the four geographical areas as well due to the differences in the sites. Figure 11 shows the type of respondents which are involved in the sites selected for the research in the four geographical areas. Overall, in France the number of respondents per site is the largest.

Although the composition of the stakeholders involved in the management (process) of the areas for the research varied more than originally expected during the start-up phase of the project, the following key-stakeholders are present in all countries and in most of the sites:

- farmers/occupiers or their representatives (i.e. representatives of farmers organizations);
- owner/users/representative of nature sector being governmental employees of state owned nature reserves or employees of environmental NGO's (i.e. employees of Natural England, National Trust, State Forest Service, Natuurpunt, Natuurmonumenten);
- representatives of recreation/tourism sectors;
- local officials (majors of municipality employees);
- regional officials (provinces, regions or regional administrations).

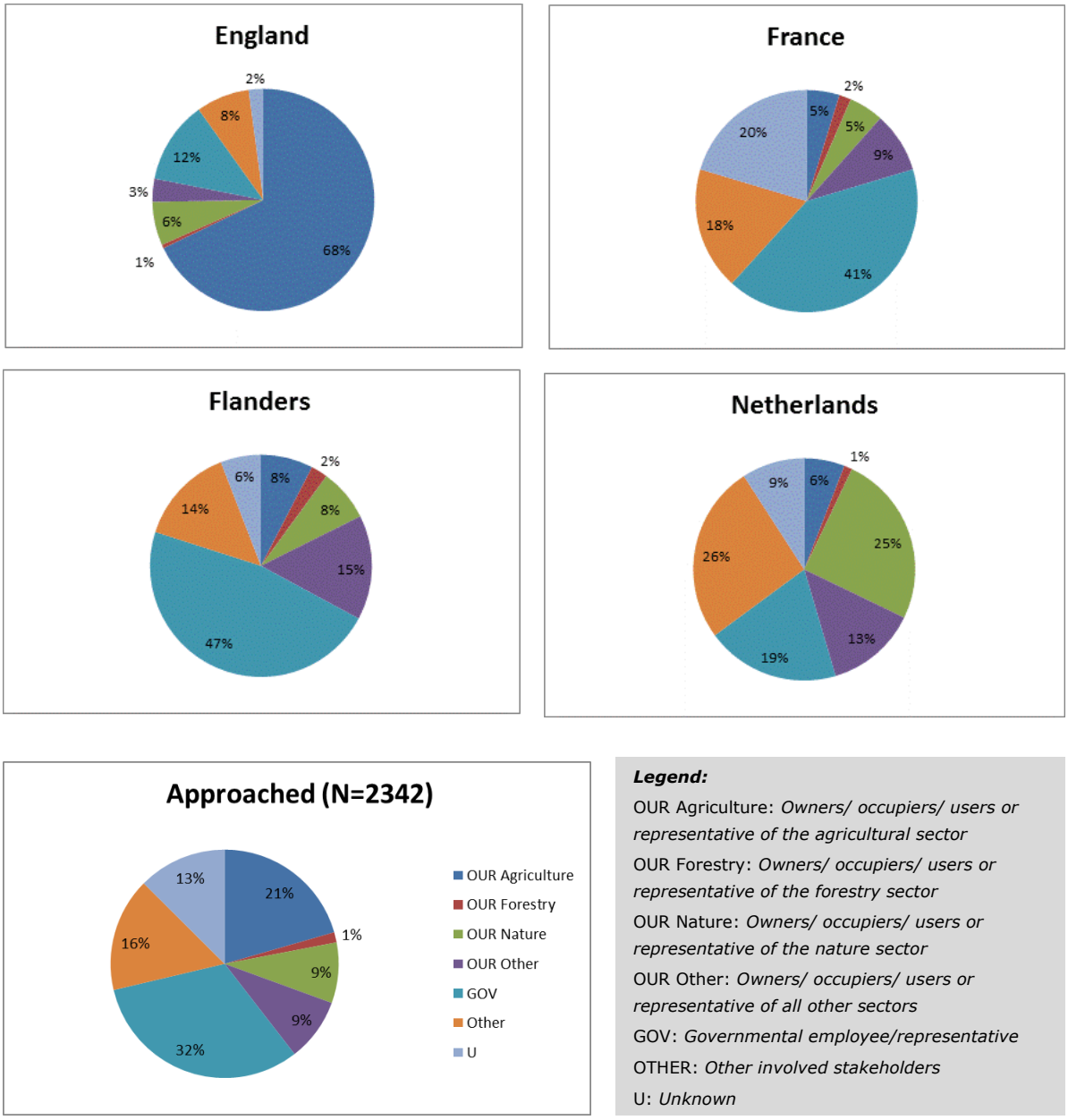


Figure 11. *Shares of involved stakeholders' affiliations in the four geographical areas in the researched sites and in the four geographical areas. In some cases there was not enough information on the affiliation of an actor to assign them to a specific actor group.*

4.4 Survey method and design

Based on the nature of the study in combination with the available resources (financial and other) it was decided to undertake the survey as a web based survey. The advantages of web based surveys are that they are easy to develop and process. Due to the internal skip logic of the survey respondents do not have to answer questions that are not relevant for them. Furthermore respondents might be more willing to provide socially undesirable answers as the survey is anonymous and is not subject to the influence of an interviewer.

The disadvantages are that some of the respondents addressed by the survey are less likely to have internet access and are therefore not able to respond to online questionnaires. Furthermore overall web based surveys have lower response rate then paper surveys – although online surveys can attain response rates equal to or slightly higher than that of traditional modes. This might result from the

fact that internet users today receive many requests to participate in online surveys or might consider the request as spam. The absence of an interviewer can also possibly lead to less reliable data.

The survey was designed by Alterra Wageningen UR in consultation with local contacts in the four geographical areas. In Flanders the survey was developed in co-operation with INBO. In France the survey was reviewed and translated by ATEN from English into French. Following the translation of the survey into the three languages, a language check was executed by the Company 'Into Languages' to ensure consistency in the questions. After this consistency check the survey was again reviewed by the representatives of the countries. Furthermore the survey was reviewed by the Alterra project team that composed of one native English speaker, and two staff members proficient in French, English and Dutch.

The survey consists of four parts (See Annex 2 for the survey):
- general information regarding the respondent filling in the survey and their involvement in the area;
- questions regarding the discussion of the management of the area in the framework of Natura 2000 as well as the management measures implemented for Natura 2000;
- questions regarding changes the respondent noticed in the overall use of the area and the reasons the respondent feels that these changes have taken place (such as economic developments or governmental measures);
- questions regarding the respondents expectations for the future of the area.

The survey was tested in one site in each four of the geographical areas which led to a few changes in the survey design. Changes incorporated related to:
- a better specification of whether the local discussion on management in the site had started or not and what the main reason was to start the local discussion (such as: the designation of the site as Natura 2000, or the development of a management plan). In the test survey these were two separate questions and in order for the respondent to have a better insight in what might constitute a possible start they were combined;
- respondents indicated they would like to incorporate their opinion on the management measures taken for Natura 2000, which was not part of the original survey;
- a specification of a period or 10 years for which the respondents were asked to describe the general change in the area (part 3 and 4 of the survey).

The survey was evaluated using the CBS checklist for survey design.

The survey was undertaken in the following manner:
- The survey was sent out using a mixed mode depending on the country. In Flanders and the Netherlands, the request to fill in the survey was distributed only by email. A link to the online survey was sent out by email to the selected respondents. In England and France, the survey was sent out by email and by post as it was not possible to obtain the email addresses of all respondents.
- In case of distribution by email - the survey was sent in group emails to the selected respondents for a specific site. As the email was sent to all respondents it was not personalised.
- Most people were addressed by their personal email address, however sometimes we only had a general e-mail address of an organization of government. Given the high number of general email addresses in the UK, an additional action was undertaken to allocate responsible staff within the county administrations
- The emails to one site were sent as BCC, so the respondents could not view the names of the other respondents;
- For each country/region, an official letter was attached to the email in the national language.
- In case of distribution by email we sent out once a reminder.
- In case of distribution by mail the letters were personalised, no reminder was sent.

In all countries, it was the case that respondents suggested colleagues who would be better positioned to fill in the survey. As in England response was low, we also phoned selected people and we send the survey to additional respondents, often addressing these people personally to raise the response.

The survey was held between March and May 2015.

4.5 Statistical analysis

In Annex 3 a detailed account is provided of the statistical analysis of the survey results. In this research the conventional value of alpha-0.05 is used as criterion for significance. In case *p* value is below 0.05 we have further reviewed how much of the variation is explained by the specific factor. R^2 is a statistic that will give some information about the goodness of fit of a model. In principle the value indicates how much of the variation is explained (e.g. explained variation/ total variation). In this research where the R^2 value is lower than 0.02 we do not describe the effect, where the value is between 0.02-0.13 we speak of a small effect, where the value is between 0.13-0.26 we speak of a moderate effect , where the R^2 value is above 0.25 we speak of a large effect (based on Cohen 1992).

5 Results

5.1 Introduction

This chapter presents the results of the survey both in terms of response as content. It is structured following the four parts of the survey. In Section 5.2 an overview is given of the response rate as well as the type of stakeholders responding to the survey based on the first part of the survey.

In Section 5.3 the outcomes of the survey itself are presented. The outcomes are presented based on the three other parts of the survey being:

- the discussion of the management of the area in the framework of Natura 2000 as well as the management measures implemented;
- changes the respondent noticed in the overall management and use of the area and the reasons the respondent feels that these changes have taken place (such as economic developments or governmental measures);
- the respondent's expectations for the future of the area.

As the number of respondents responding to the questions can vary, each figure indicates the number of respondents on which the results are based. In Annex 4 the results of the survey are presented for the four geographical areas.

5.2 Response and characterisation of respondents

5.2.1 Response rate

The overall response rate of the survey is 25% (Table 2). However, several of the responses received were very incomplete - respondents only filled in the area and the type of stakeholder group they belonged to (= the first introduction questions 1 – 8), but did not answer any of the following questions of the survey. In the analysis therefore they were excluded and only the 464 respondents that filled in the questionnaire partly or complete were included in the analysis (20%).Table 2 provides an overview of the number of completed surveys, partly completed surveys and very incomplete surveys. The majority of the respondents that did not complete the entire survey belonged to actor type government (Table 3). Percentage wise the majority came from Flanders and the Netherlands.

As some respondents were approached to fill in the survey for more than one site in a few instances more than one survey form was completed by the same respondent. A further analysis of these responses indicated that they did differ for each site, and therefore they were included in the survey as 'separate' responses. In England and France this problem was not so prevalent (only two respondents in England and one in France). In the Netherlands and Flanders the problem occurs more (six respondents) (see also Section 4.3 - Selection of respondents).

Overall the response rate was higher in the Netherlands and Flanders (43% and 34% respectively) and lower in France and England (13%). Previous studies looking at international survey response rates already indicated general lower response rates for France and England compared to the Netherlands and Belgium (Harzing 1997). Several reasons can underlie these differences in our survey. As for many of the respondents no email addresses were available in France and England, people were approached by letter – for respondents receiving the request to participate by letter the action to fill in the online survey was more complex. Also, response rates appear to drop in case the survey is send from abroad or in case the cultural difference is larger between the sending country and the receiving one.

Another reason might be the type of respondents solicited. The survey targeted stakeholders involved in the management planning process of the sites or management. There are however distinct differences in the type of stakeholders involved in the different countries –in France a high percentage of the respondents are majors and in England farmers enrolled in agri-environmental schemes (see Section 5.2.2). These may be groups that are likely to respond less than others.

Also, different SPAM policies may have accounted for a higher number of bounced survey emails (leading to a lower amount of respondents that actually received the survey that we addressed, which we would not be aware of) in one country than another.

All these findings might explain the high rates of Netherlands and Flanders compared to France and England.

Table 2.

Overview of respondents per geographical area.

Explanation: *Very incomplete surveys were only filled in till question 8, in partly completed survey's respondents stopped filling in the survey between questions 8-21.*

Geographical area	Natura 2000 sites			Respondents number							
	Number sites (excl. test sites)	Total in the country	Natura 2000 sites surveyed (%)	Send	Returned surveys**	% returned	Completed (all questions answered)	% Complete	Incomplete (between 8-22)	% Complete and partial complete	Very incomplete (till nr 8)
Flanders	22	62	35	289	127	44	79	27	20	34	28
Netherlands	26	162	16	339	160	47	110	32	37	43	15
France	17	697	2	1148	191*	17	96	8	48	13	45
Engeland	26	338	8	566	97	17	61	11	13	13	23
Total	91	1259	7	2342	575	25	346	15	118	**20**	111

** = two more surveys were received but they were excluded as the site for which the survey was completed was not part of the survey.*

*** = in a few instances respondents completed the survey for more than one site. France: 1, NL= 6, England=2 and VL=6*

Table 3.

Information on respondents that filled in the survey very incomplete

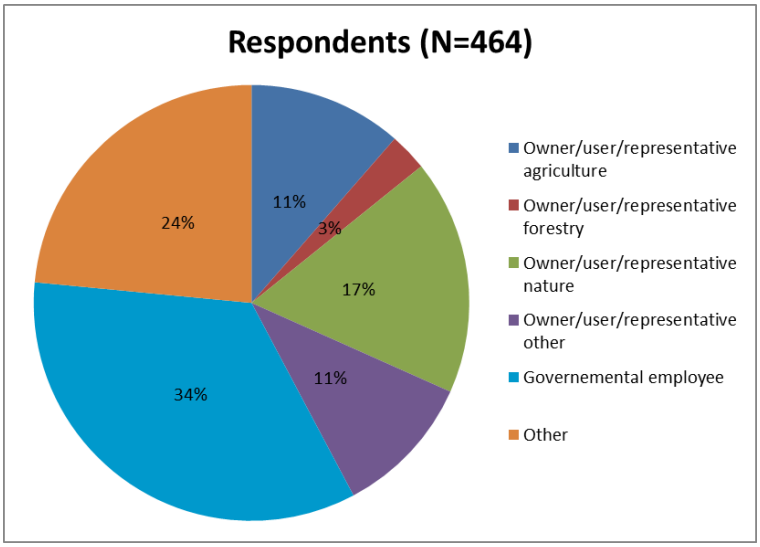
	Acquainted with the area			Actor type					
	0-5	6 - 10	>10	OUR Agricul-ture	OUR NA	OUR Other	OUR_ no infor-mation	GOV	Other
VIC R = 111	42	36	33	9	7	5	9	49	32
	38%	33%	29%	8%	6%	5%	8%	45%	29%
IC R =118	47	26	45	8	1	19		53	37
	39%	22%	38%	7%	1%	16%		45%	31%
Total drop-out	89	62	78	17	8	28	9	102	69
%	20	13	17	32	10	5	19	64	63

5.2.2 Respondents

A total of 464 respondents entirely or partly completed the questionnaire (respectively 346 and 118 respondents). The majority of the respondents were governmental employees (either from local or regional authorities) followed by other stakeholders and then owner / users belonging to the nature sector. Overall the respondents of the survey reflect rather well the type of stakeholders approached for the survey as well as the distribution over the different types of actors approached (Figure 12). Only the response from stakeholders belonging to owners, users and representatives from agricultural and nature sector is a bit lower, especially in France and England.

In order to facilitate the reporting we use the following abbreviations for the six different actor groups:

- Owners/ occupiers/ users or representative of the agricultural sector: OUR Agriculture;
- Owners/ occupiers/ users or representative of the forestry sector: OUR Forestry;
- Owners/ occupiers/ users or representative of the nature sector OUR Nature;
- Owners/ occupiers/ users or representative of all other sectors OUR Other;
- Governmental employee/representative: GOV;
- Other involved stakeholders: OTHER.



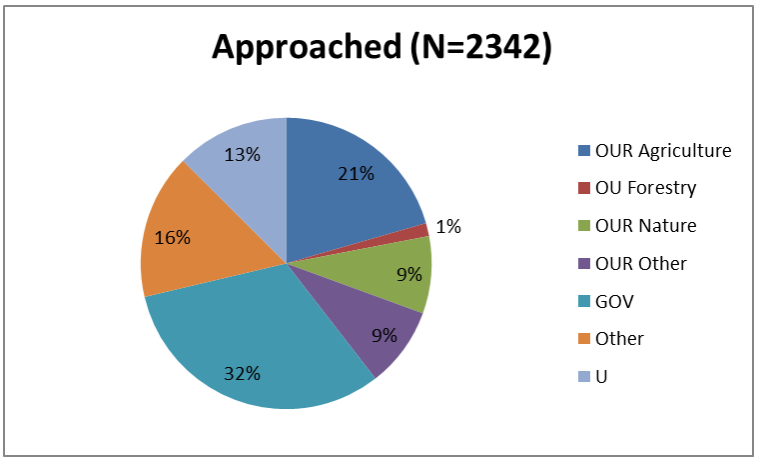


Figure 12. *Shares of respondents (top) and stakeholders approached in the survey in the selected sites in the four geographical areas (below). In some cases there was not enough information on the affiliation of an actor to assign them to a specific actor group. These were classified as unknown (U).*

Table 4 shows the division of the various respondents over the different actor groups. Over half of the respondents (54%) had been acquainted with the area for more than 10 years, 20% between 6 to 10 years and around 25% for less than 6 years (Table 5).

Table 4.

Respondents per actor type in the different geographical areas.

	England	France	Netherlands	Flanders	Total
Owner/user/representative agriculture (OUR Agriculture)	13	6	15	19	53
Owner/user/representative forestry (OUR Forestry)	1	3	5	4	13
Owner/user/representative nature (OUR Nature)	21	12	33	15	81
Owner/user/representative other (OUR Other)	2	22	14	11	49
Governmental employee/ representative (GOV)	25	54	37	43	159
Other (OTH)	12	49	41	7	109
Total	74	146	145	99	464

Table 5.

Involvement of the respondents in the area (total and per country)

Acquintated with the area	All countries		England		France		Netherlands		Flanders	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
0-5 years	120	25.9	13	17.6	49	33.6	25	17.2	33	33.3
6-10 years	94	20.3	18	24.3	39	26.7	25	17.2	12	12.1
10 years	250	53.9	43	58.1	58	39.7	95	65.5	54	54.5
Total	464	100	74	100	146	100	145	100	99	100

5.3 Survey results

5.3.1 Changes in the management of the site

Key messages from the survey

- The perception of a majority of the respondents is that more measures for habitats and species are taken, following the local discussions between involved parties and government. The type of actor, the geographical area or agricultural surface of the site does not influence this perception.
- With regard to the sufficiency of the current number of measures to ensure the favourable conservation status, 42% of the respondents indicated that they were (more then) sufficient versus 32% that they were not. There appears to be an effect of the type of actor: respondents representing OUR Agriculture perceive the measures to be sufficient, while the respondents from OUR Nature, OUR Forestry and OTHER consider the amount of measures less sufficient.
- Of the measures taken for Natura 2000, respondents indicated that rewetting is seen both as the largest encumbrance as well as the most beneficial.
- The majority of respondents indicate to notice an increase in recreational use. Also a number of conversions from agricultural land have been observed, to urban functions as well as to (semi) natural land.

What type of changes in measures for Natura 2000 habitats and species do respondents perceive?
Of the 464 respondents, the majority of the respondents (81%) is aware of the conservation objectives set for the site, 3% not and 16% do not know.

The majority of the respondents (62%) indicate that the discussion started due to different aspects of the Natura implementation process, 26% indicated that it was an ongoing discussion and 12% indicated that the discussion had not yet started (Figure 13). In England 46% of the respondents indicated that this discussion was a continuation of an ongoing discussion on the management of the area (Table 6). This is in line with fact that many of the sites were already designated as SSSI and most likely discussion on the management were taking place before their Natura 2000 designation. No correlation was found between the answer to when the discussion started and the duration of the involvement in the site of the respondent.

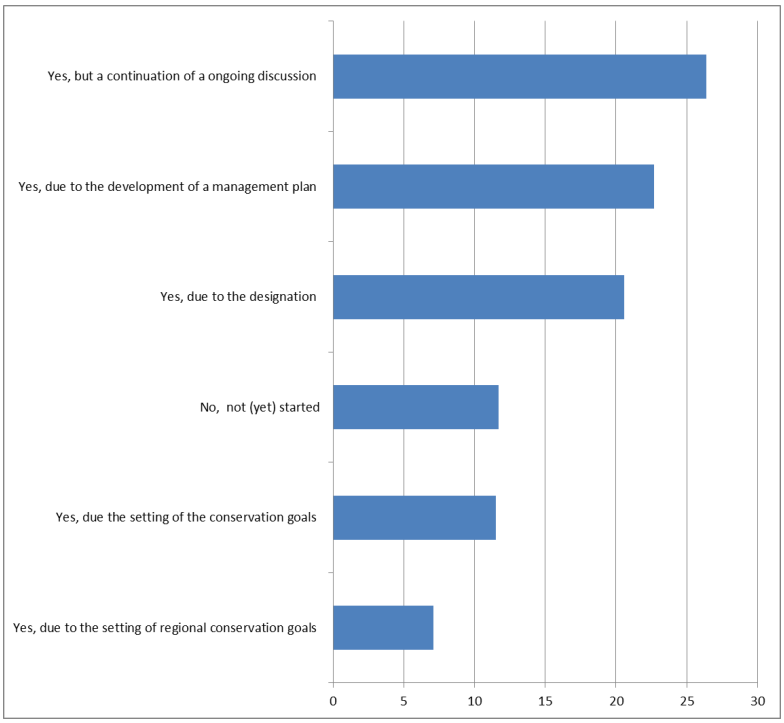


Figure 13. *Reason for the start of the discussion on the management of the area between the government and involved parties.*

Table 6.
Division of responses for the reason of the start of the discussion based on geographical area country

Is in the framework of Natura 2000, a discussion ongoing between the government and the involved parties on the management of the area (please indicate which you feel is most applicable)	EN (n=72)	FR (n=146)	NL (n=145)	FL (n=99)
Yes, due to the designation	27.8	28.8	15.2	11.1
Yes, due to the setting of regional conservation goals	2.8	6.2	3.4	17.2
Yes, due to the setting of the conservation goals for the site	4.2	13.0	9.7	17.2
Yes, due to the development of a management plan	5.6	21.2	32.4	23.2
Yes, but a continuation of an ongoing discussion	45.8	23.3	31.7	9.1
No, not (yet) started	13.9	7.5	7.6	22.2
Total	100.0	100.0	100.0	100.0

Overall the majority of the respondents (63%) reported seeing an increase in the number of measures taken after the discussion on management started between the government and local parties. Only 3% reported a decrease (Figure 14). The opinion of respondents does not differ among the types of actor, geographical areas or agricultural surface.

Also no relation was found between the answer to the number of measures taken and the respondents duration of the involvement in the site.

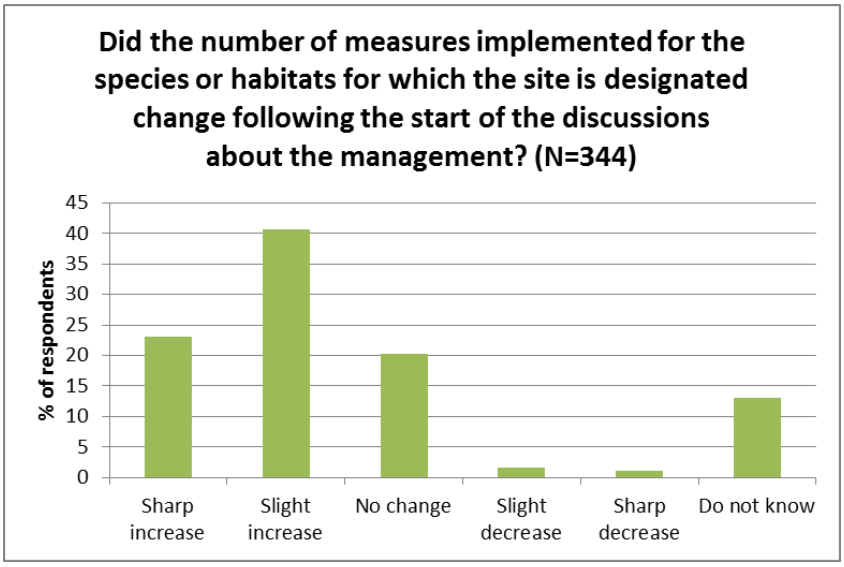


Figure 14. *Share of responses on change in number of measures change following the start of discussions about management.*

When asked whether the current measures were considered sufficient to ensure the conservation status of the species the area was designated for 8% considered it more than sufficient, 35% sufficient, 15% neutral, 25% not sufficient and 7% very insufficient. Nine percent of the respondents did not know. The opinion of respondents is dependent on type of actor. There is a significant difference of opinion between respondents belonging to OUR Agriculture and the respondents belonging to three other groups being 1) OUR Nature 2) OUR Forestry 3) Other stakeholders. The mean value of the last group is lower than of the respondents from agriculture e.g. they consider that the current measures are less sufficient (N=395, R^2= 0.09 p=0.00). The geographical areas or the two reviewed sites characteristics have no apparent effect on the opinion of respondents.

It should be noted that this question only asks the opinion of the respondents and does not reflect the actual status of the species in the site.

How do sectors perceive the encumbrance and benefits of measures?
Rewetting and restrictions of hunting and fishing were most often considered as the largest encumbrance (Figure 15). As this question is answered from the viewpoint of the sector involved, the interpretation of the answer also depends on the actor group the respondent belongs to.

Figure 16 shows that although rewetting and restrictions in hunting and forestry are most perceived by respondents from OUR Agriculture and OUR Forestry also respondents from other actor groups indicate this, however to a much lower extent. On the other hand rewetting is considered highly beneficial by most respondents from OUR Nature, but respondents from other actor groups also indicate this, however they do so to a much lower extent. Respondents from OUR Agriculture and OUR Nature rate the five measures rewetting, decrease in fertilisation, delay of mowing date, extensification of grazing and restrictions for hunting and fishing significantly different (N=347, R^2 between 0.08-0.34, p=0.00).

Furthermore in case of the measures rewetting and delay of mowing date there is a moderate effect of geographical area as well.

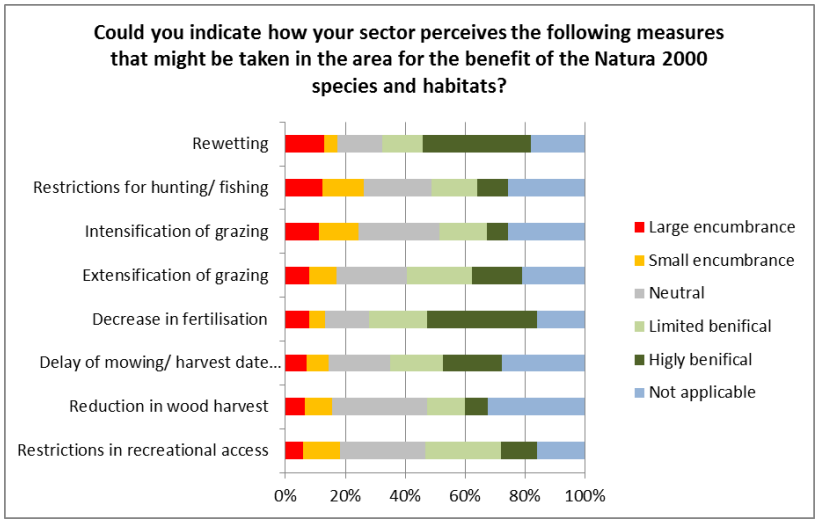
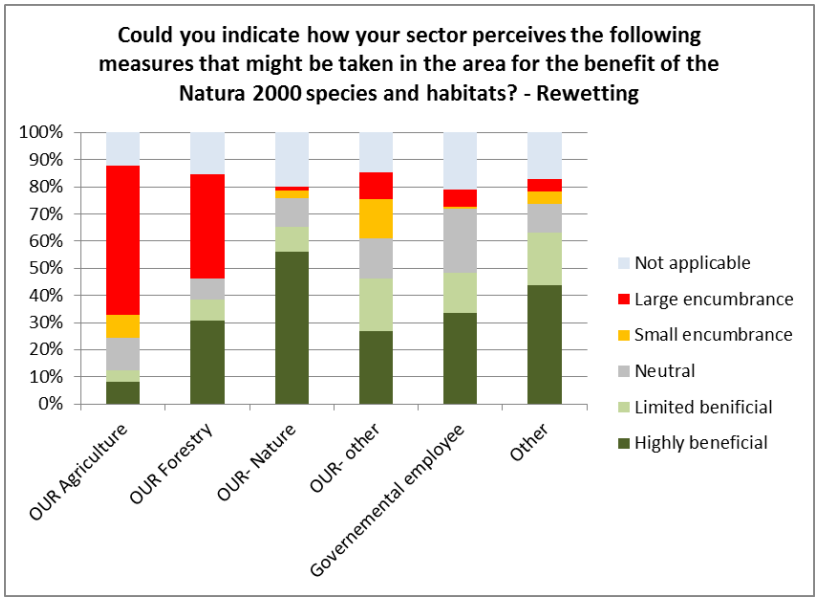


Figure 15. *Total share of responses (all respondents) on perceived impact of measures taken for Natura 2000 species and habitats per type of conservation measure.*



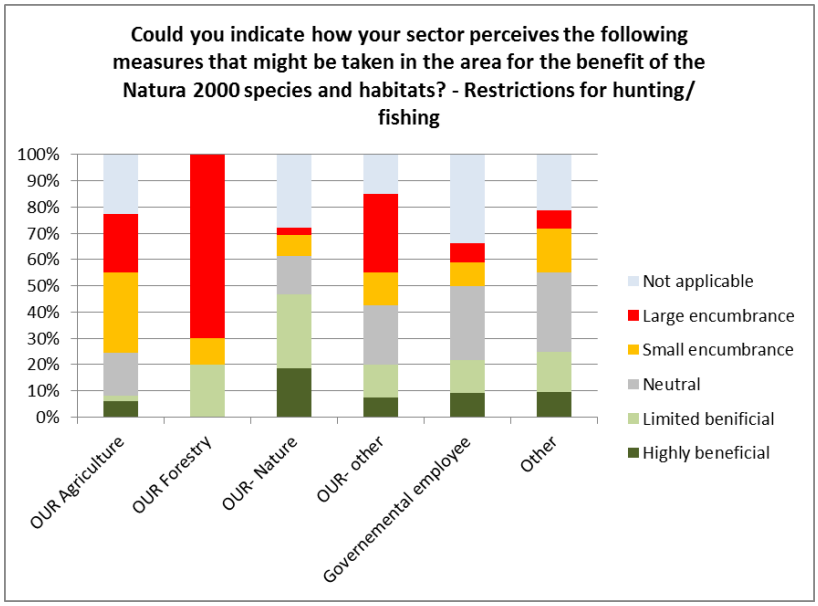


Figure 16. *Perceived usefulness of rewetting (above) and restrictions for hunting/ fishing (below) measures by actor type.*

What type of changes do respondents perceive in the overall management or use of the area?
In relation to the various changes in management and land use of the areas, the change mostly seen in the areas by the majority of respondents is an increase in recreational use of the site. Also a conversion from agricultural land to urban area as well as the conversion from agricultural land to natural and semi natural is perceived by many of the respondents in the sites (Figure 17). Overall the opinion of the respondents does to a limited extent (small effect) depend on the type of actor and geographical area: An exception is the conversion from agricultural land to natural or semi natural land (moderate effect) that is noted more by respondents in Flanders and the Netherlands then in France and England.

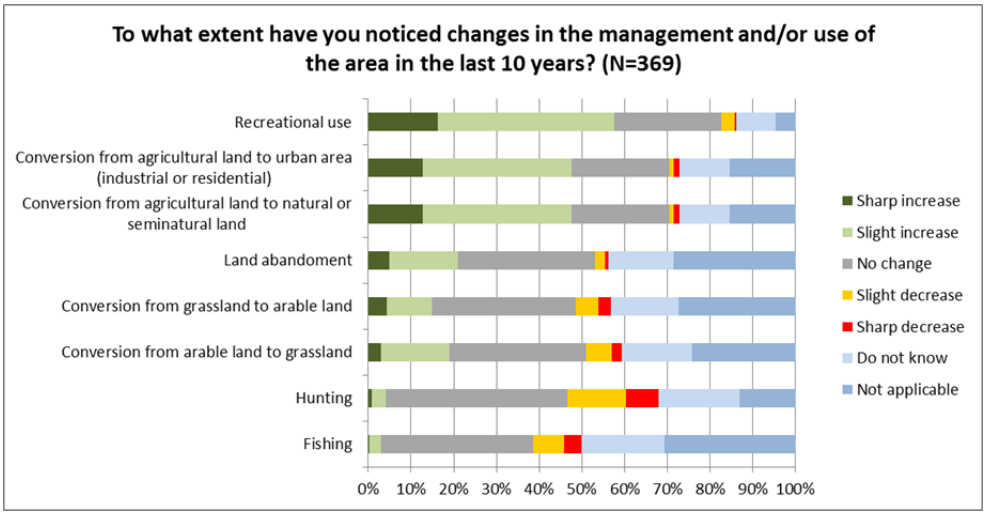


Figure 17. *Perceived change in management/ use of the area.*

When asked how respondents rate the changes they see in the management of the areas 12% of the respondents considered the changes very negative for agriculture followed by hunting (5%). The changes were seen as very positive for nature (22%) and tourism and recreation (7%) (Figure 18).

In case of nature there is a moderate effect of the type of actor (N=367, R^2 = 0.07-0.15, p=0.00-0.003). OUR Agriculture and OUR Other consider the changes less positive for nature. For agriculture the geographical area also plays a role (moderate effect). In Flanders, followed by the Netherlands, changes are considered to be more negative compared to France and England. It appears not to be related to the two reviewed site characteristics.

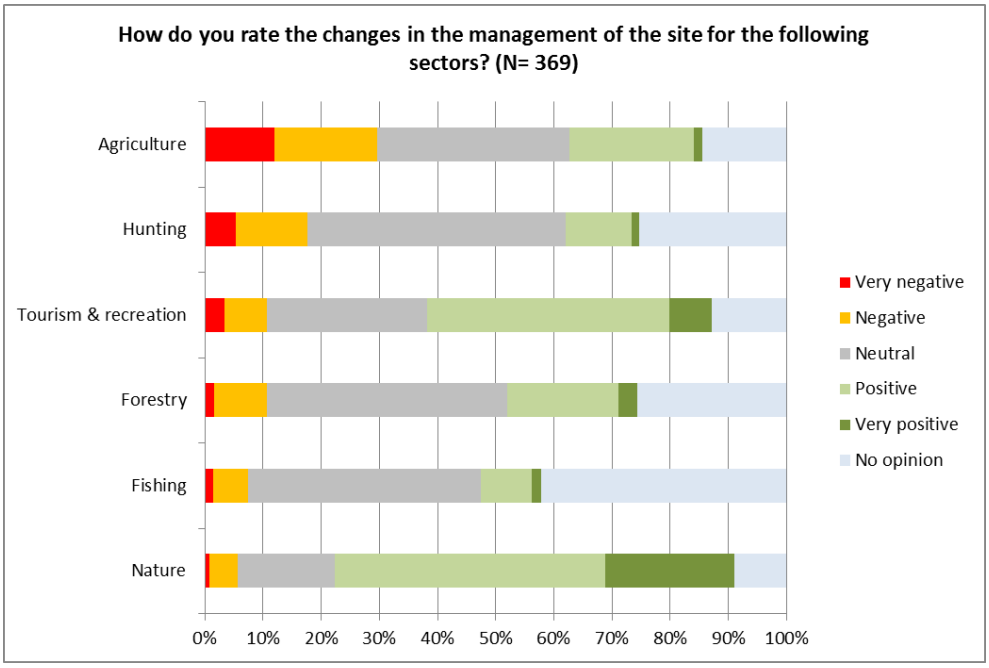


Figure 18. *Rating of management changes for different sectors.*

5.3.2 Causes for change in the management

Key messages

- More then 40% of the respondents agree with the statements that the local process has created support for the measures, increased co-operation and increased the awareness of the European importance of the site. The prior designation status has a small effect on the perception of respondents.
- Around 20% of the respondents indicate that land prices and recreational use have had a high or very high impact on the management and use of the Natura 2000 sites.
- Respondents consider governmental measures, especially funding for management and legal regulations, to have had a high to very high impact on the changes in management of the areas.
- Respondents differ of opinion with respect to whether in the local processes all interest were given equal weight.

Which of the overall / general developments have contributed to changes in the management or use of the area?

Asked which general developments respondents considered to have contributed to changes in the management or use of the area, relatively many respondents state that the prices of land have had a very high impact or high impact on the use or management of the area (7% and 14 respectively – Figure 19). Also the recreational use of the area has had a high to very high impact on the area (4% and 18% respectively). There is a very small effect of actor type, the geographical area and the site characteristics depending on the question.

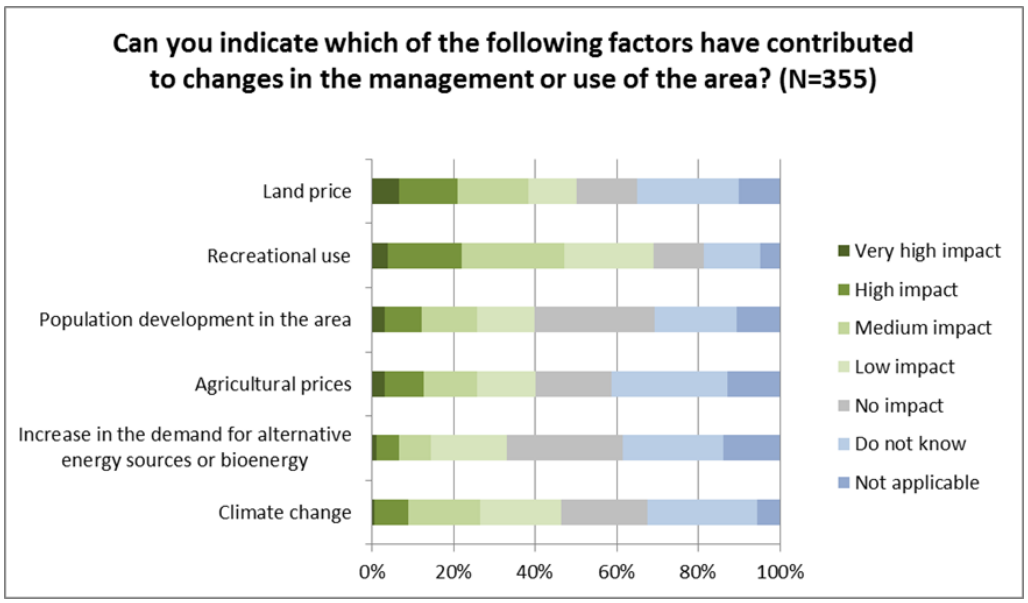


Figure 19. *Perceived impacts of factors influencing the management of the area in the last 10 years.*

Which measures taken by the government have contributed to changes in the management of the area?

Governmental measures considered by the biggest proportion of respondents to have had a very high to high impact (up to 39% of the respondents), are funding for state organisations and the development of rules and regulations. Overall, almost all measures taken by the government have had, according to the majority of the respondents, to a more or lesser degree an impact on the management of the area (Figure 20). The opinion of the respondents seems not to depend on the type of actor or the two reviewed site characteristics. There is a very small effect related to the geographical area where the respondents come from.

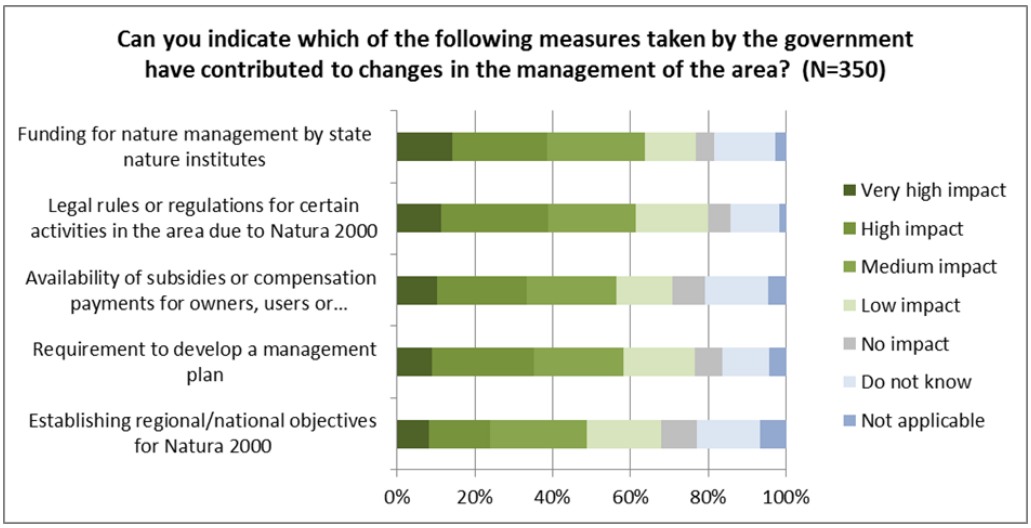


Figure 20. *Perceived impacts of governmental measures for change in areas' management.*

What is the impact of the discussion between the government and the involved parties on the management of the area?

Of the respondents (88%) that indicated that a discussion was ongoing, the opinion on whether in the local discussion all interests were given equal weight show a very diverse and contrasting picture. 36% of the respondents indicate that all interests were not given equal weight and 29% indicate they were (Figure 21). Overall the respondents from OUR Agriculture disagree more with this statement then the other groups of respondents from other actor type (N=349, R^2 =0.11, p=0.00).

On the subject of other benefits of the discussion processes between the government and the involved parties on the management of the areas opinions vary. More then 40% of the respondents agree with the statements that the local process has created support for the measures, increased co-operation and an increased the awareness of the European importance of the site.

Furthermore a small to moderate effect of actor groups can be noted and also a geographical effect is present. Overall the responses of the respondents of OUR Agriculture are less in agreement with all statements compared to the other groups (N=329, R^2 between 0.06-0.17, p=0.00).

Furthermore the respondents of Flanders tend to disagree more with all statements compared to the other geographical areas (N= 349, R^2 between 0.05-0.25, p=0.00).

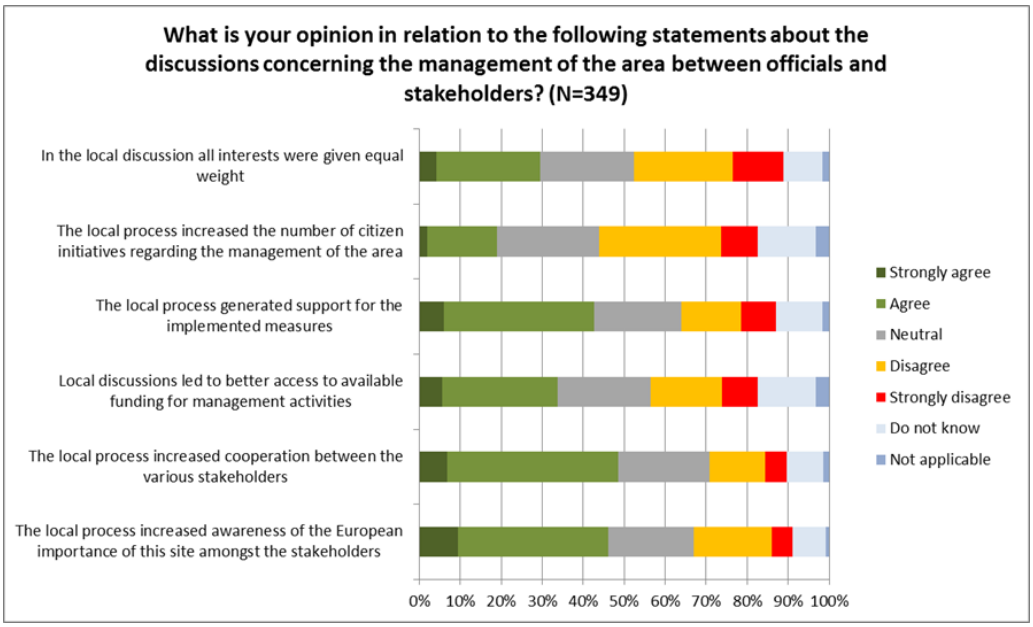


Figure 21. *Opinions on benefits of the local discussion on area management.*

As this question asked for ratings of multiple objects on the same response scale a check on non-differentiation or straight-lining was conducted. Some evidence was found that this occured, 6% of the respondents answered this question in all cases with 'I do not know' or' no opinion'. However this could be genuine responses, if respondents have no knowledge of the discussion that took place.

5.3.3 Expectations for the future

Key messages

- For the coming ten years respondents expect that land prices will still have the highest impact on the development of the area.
- 44% of the respondents feel Natura 2000 will have a very positive to positive impact for the local economy. The response depends on actor type– overall respondents from OUR Nature indicate a more positive impact then the respondents from other groups of owners owners/users/representative (OUR Other, OUR Forestry and OUR Agriculture).
- The majority of respondents felt the Natura 2000 designation will have a very positive to positive impact for the well-being of local residents.

Respondents were also asked what type of impact they feel the designation and management of the area as Natura 2000 area will have on the future of the area. Overall the majority of respondents felt it will have a very positive (10%) to positive impact (34%) for the local economy, 35% of the respondents was neutral and a minority felt it would be negative (10%) to very negative (6%) (Figure 22).

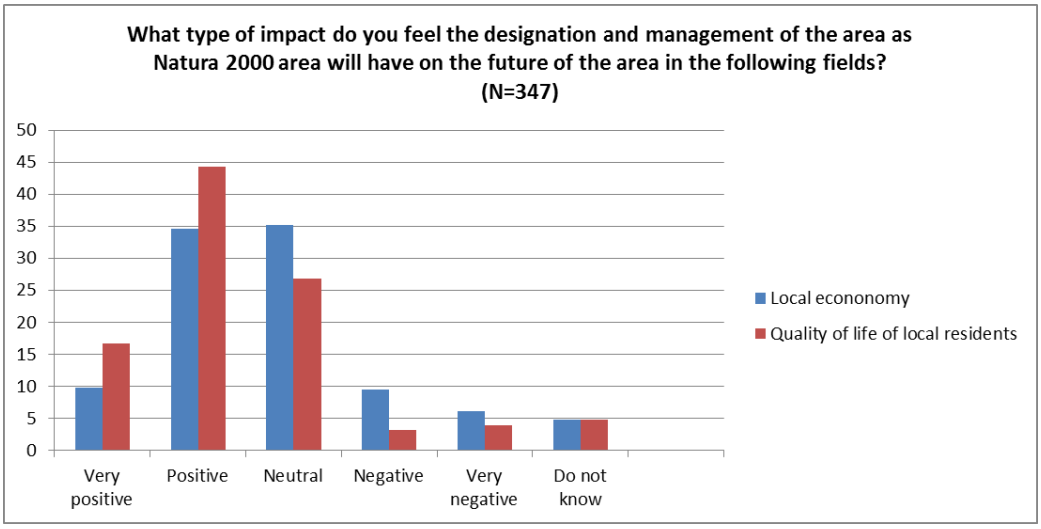


Figure 22. *Impact estimations of designation and management of the area as Natura 2000 site in the future*

The response depends on actor type – overall respondents from OUR Nature indicate a more positive impact than the other groups of OUR (Other, Forestry and Agriculture) (N=347 R^2 = 0.17, p=0.00). Asked how Natura 2000 will impact well-being of local residents, the majority of respondents felt it will have a very positive (17%) to positive impact (44%) for the well-being of local residents, 27% of the respondents was neutral and a minority felt it would be negative (3%) to very negative (4%). The response depends on actor type – overall, respondents from the two actor groups OUR Nature and 'OTHER' indicate a more positive impact then the OUR Agriculture (N=347 R^2 = 0.17, p=0.00). Only a small effect of the geographical area was found. No effect with surface in agricultural use was noted.

For the coming ten years respondents expect that land prices still will have the highest impact of the development of the area, followed by the price of agricultural products and recreational use (Figure 23). The price of agricultural products was not considered an important factor influencing the area in the last ten years.

Governmental measures considered by the biggest proportion of respondents to have a very high to high impact (up to 40% of the respondents) in the future, are funding for state organisations as well as private organisations and the development of rules and regulations (Figure 24). If we compare Figure 20 with Figure 24 overall more respondents expect that governmental measures will have a higher impact in the future then until now. A small effect of geographical area and prior designation is noted.

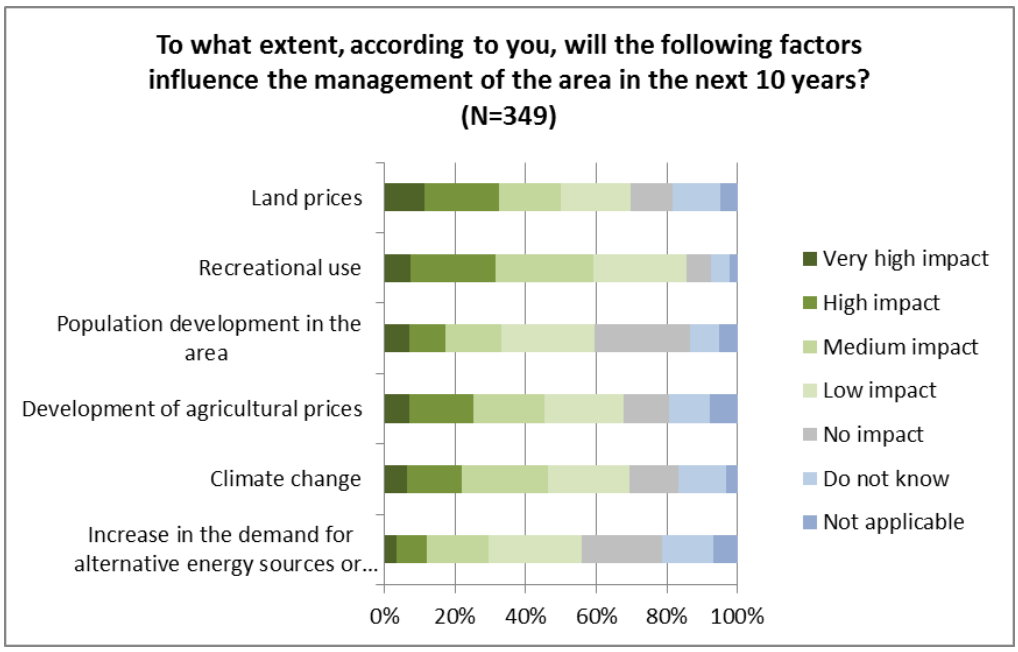


Figure 23. *Estimated impact of the extent of general drivers and pressures for land use change in the future.*

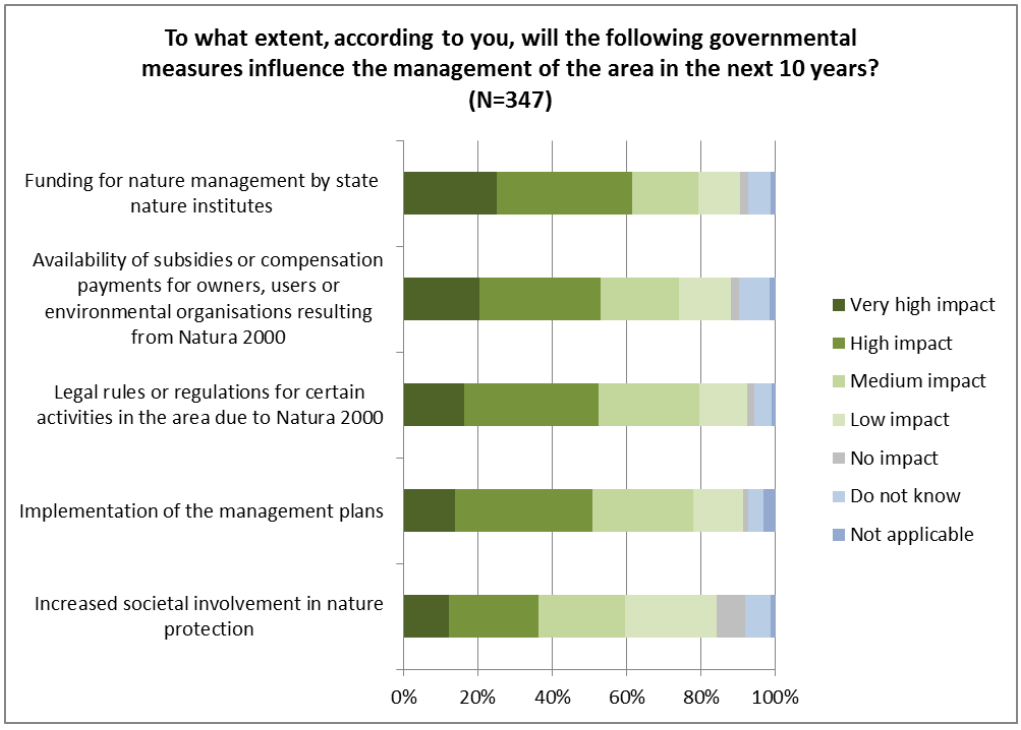


Figure 24. *Estimated impact of the extent of governmental measures in the future.*

6 Discussion

6.1 Methodological issues

In survey design the selection of the survey population affected both the internal and external validity of the study results. Internal validity only is relevant for studies which try to assess causal relationships. Internal validity reviews whether observed responses can be attributed to the factors assumed (i.e. the cause) and not to other possible causes (sometimes described as 'alternative explanations' for the outcome). Normally the best way to ensure internal validity is to use a control group that is not subject to the process reviewed. However in this research this was not possible as the research did not rely on an experimental design and given the research question, no comparable areas or respondents existed that could be used. Four causal relationships were reviewed being actor type, geographical area, designation status prior to Natura 2000 and surface of agricultural land in the Natura 2000 as a proxy for private ownership. A further detailed review of the proxy showed that in reality agricultural land in the Natura 2000 was not a good proxy for private ownership. In hindsight, this criterion for site selection was not very useful.

During the workshop some questions were raised in respect to the relationship with prior designation – although the criterion to select was based on international set criteria of the IUCN classification, the main question is whether the respondents, in particular in France, also consider the site as a site were land use restrictions were already present. In France the relation between the IUCN classification and the national designated status is currently under review. At the same time a Dutch representative indicated that in the Netherlands representatives might not make any distinction between different protection regimes.

Furthermore the designation by itself might not be the trigger but the processes that are associated with designation such as information, consultation with local people and management planning.

External validity is important as it determines if the survey population is a relative representation of the larger population. The response rate achieved in the reviewed geographical areas varied between 43% and 13%. The response rate for web based survey varies greatly – response rates vary between 7% and 88%. Overall the response rate of mail surveys is higher than of web surveys (Shih and Fan 2008). The survey method applied followed several of the best practices related to international web surveys, such as undertaking the survey in the national language, involving local respondents for checking the survey and gathering addresses, using personalised email addresses, sending a reminder and running a test to verify access in different countries (Dillman 2000; Harzing *et al.* 2013). However, response rates could have been higher, particularly in France and England.

In hindsight a combination of paper and web based survey might have led to a higher response rate. In addition, as all respondents in the Netherlands and Flanders had access to internet whilst in France and England we received replies that indicated some of the respondents did not have access to internet.

Our analysis of the results of respondents who did not complete the entire survey shows that the majority of them are governmental representatives (primarily local administrations) and other stakeholders. Not surprisingly as they also form the majority of stakeholders approached. Of the owner/representatives that did not complete the survey most of them were stakeholders from agriculture. As the 'drop-out' rates are the highest for governments and other stakeholders but these also constitute the majority of respondents the effect is not expected to be great.

In respect to the external validity (e.g. how representative are the found relations for other areas) the result of the Netherlands and Flanders are better as in these countries both the number of sites participating in the survey as well as the response rate is higher. Also as a relatively limited number of

people participate in the development of the plans of each site in these geographical areas the results better reflect the opinion of the stakeholders involved in this process.

In England and France the external validity is much lower as the response rate is lower and the number of sites is much higher than in the other two countries. Therefore caution is advised in extrapolation of the result of this survey to other sites in France and England. Also as a large number of people participate in the development of the plans in France the results of this survey do not reflect the opinion of all the stakeholders involved in this process. This also has bearing on the found variance between the reviewed geographical areas.

Furthermore, in the workshop several remarks were made on how representative the actor clusters are for the people involved in the process and management of the area. In respective to representativeness of the survey results for representatives belonging to the agricultural sector three reservations need to be made.

- In most countries the people participating in the process of management planning are fore mostly farmers representatives, also the majority of the people that participated in the survey are farmers representatives. Therefore the survey reflect more the opinion of the farmers representatives then of the individual farmers involved in managing the sites.
- The number of French respondents from the agricultural sector was very low. This might have been as our survey coincided with a governmental campaign amongst farmers and their representatives that might have been given priority. The survey results primarily reflect the opinion of Dutch and Flemish farmers representatives and English farmers
- The agricultural sector itself is very diverse, both in the different types of farms (e.g. cattle, dairy, cropland farms), the level of specialisation as well as the level of intensification. As the impact of Natura 2000 might differ for the different farmers the question is whether it is possible to cluster the views of such a diverse sector. Participants in the workshop expected that farmers that farm extensively will be more positive in respect to Natura 2000 as it fit better in their existing management practice and provides them with alternative income then farmers that farm intensively.

In respect to the actor group ‘others’ it was noted that this group covers more than 20% of the respondents and that it is a very heterogeneous group. It is difficult to determine which part of the survey population they represent.

In the survey answers satisficing did manifests itself – primarily in the high level of drop outs during the survey. Approximately 40% of the respondents that started the online survey did not fully complete it with already 20% of the respondents dropping out in the first phase on the survey (before question 8). It is difficult to assess whether choosing socially desirable responses occurred to a large extent or whether respondents choose explicitly the offered no-opinion or 'don't know' or not relevant response options. Overall internet based survey reduce this tendency although also in this survey the team was approached with inquiries in respect to the confidentiality of the data indicating that for some respondents answering the questions truthfully was considered socially undesirable. Skipping specific items in the survey was not possible as the survey was designed in a manner to avoid this- however this might on its turn again lead to a higher level of drop out.

6.2 Discussion of results

The discussion of the results centres on two issues:
1) Perception of key-stakeholders on the changes noted in the management of the area and
2) The four possible explanatory factors.

The survey shows that the majority of respondents indicate that they notice an increase in recreational use of sites. Also a number of conversions from agricultural land have been observed, to urban. This last is in line with earlier findings from the SOER 2015 (European Environment Agency 2015) which indicates conversion of land into urban areas as one of the main land use changes in the EU. Tourism and recreation have been increasing in Europe in recent years (European Environment Agency 2015).

Furthermore the survey shows that the perception of the number of measures taken for the species and habitats has increased. This might be an indication that the processes that have been initiated by the different governments to adapt the management of the sites in the reviewed areas is starting to have an effect on the actual management of the sites. Existing Natura 2000 literature until now has not provided any information on other studies assessing this aspect of Natura 2000 implementation (Popescu *et al*. 2014). Interestingly enough this opinion does not depend on the respondents actor type. However some caution needs to be advised as involved stakeholders might be more positive in respect of the achievements made in processes they are involved in.

However, the question remains as to how far respondents are able to assess changes in management and changes in land use in general. On the one hand their opinion might be influenced by particular events that have recently taken place, on the other they might have grown accustomed to a change and do not notice it anymore. In addition the capacity of people to memorise or remember the precise time at which certain changes took place in the past (particularly beyond 5 years) might be limited. Furthermore discussion taking place in the media or in politics might impact their response such as the EU wide consultation on the Fitness Check. But as this survey was undertaken a short time in advance of the official launch of the EU wide consultation on the Fitness Check and we therefore expect that the result has not been influenced by the Fitness Check process and subsequent stakeholder actions (such as the Nature Alert campaign in which NGOs have used a 'crowd sourcing' approach to gain support for the Nature Directives). It is therefore important to note that this research does not record actual change but only the perception people have.

At the start of this research we reviewed several factors that might influence the management of Natura 2000 sites and thus also impact on the perception of stakeholders in relation to the management, changes and causes of change in Natura 2000 sites (see Chapter 2). Based on the presented factors we expected to find the following differences:

- between the perceptions of the stakeholders, according to their types;
- between the perceptions of stakeholders in different sites due to differences in current land use and history of site designation;
- in perception of stakeholders between the four geographical areas.

Our survey shows that in particular actor type influences the perceptions of stakeholders on many of the questions asked (ranging from large, moderate to small effect). Also the geographical area has an effect, but in many cases the explanatory value is low (e.g. low R^2 values), except on topics related to the discussion between the government and stakeholders.

In respect to the explanatory factor actor type our research shows that actor type does influence the perception of respondents in particular in relation to the value people attach to Natura 2000 and to the changes it brought. This can be seen to apply to, for example, questions that request rating of the impact of Natura 2000 for different sectors or on the impact of Natura 2000 designation and management on the future of the local economy and quality of life. It does not or only to a limited extent affect the changes stakeholders perceive. Respondents representing the agricultural sector and in some cases land owners and representatives of other sectors (with the exception of nature) in particular give a higher negative estimate of the impact of Natura 2000 whilst respondents representing the nature sector are overall more positive.

It is important to note that the majority of the respondents in the survey are not individual farmers or landowners but that they consist of respondents that are staff members of farmers unions or other organisations which are set up to represent the interest of the specific community. During the workshop participants indicated that they expect different views between the individual farmers and their representatives. Although the majority of the participants recognised the difference in opinion between the farming and nature communities they did stress that the types of farms and farmers involved are very heterogeneous. They vary from different types of livestock farms to crop farms, in particular whether farmers are extensively or nature friendly farming or more intensively farming has a major impact on their view of Natura 2000.

Previous studies have also reviewed the perception of stakeholders about Natura 2000 – however the majority of these studies have undertaken a broad census amongst the general population (Dimitrakopoulos *et al*. 2010; Mouro and Castro 2010; Pietrzyk-Kaszyńska *et al*. 2012) or amongst one particular actor group, mostly governmental representatives (Sumares and Fidélis 2009) or nature conservationists (Kati *et al*. 2015). Although these studies are based on a survey amongst the general population or a specific stakeholder group they also confirm our findings as they show that the opinions of respondents who are private owners of land in the Natura 2000 sites differ from the general population, as their perception is in general more negative. Also the public consultation on the Birds and Habitats Directive show that businesses are more negative (Fries-Tersch *et al*. 2015). In this study local and regional governmental officials were combined in one group therefore it is not possible to state whether these groups differ in opinion on the impact of Natura 2000 as suggested by Sumares & Fidélis(2009), although this is likely.

Besides a difference of opinions between respondents about the impact of Natura 2000 for various sectors and the future of the area, the perception of the discussion between the local government and stakeholders in the area also shows an actor effect. This by itself is not surprising as in many planning processes the viewpoints between involved stakeholders vary (Young *et al*. 2013). The survey shows that the agricultural sector in particular is seeing less benefits arising from the discussion between the government and involved parties.

The differences in history of site designation appear to influence to a limited extent the opinion of respondents in respect to the beneficial effects of the discussion between the government and involved parties. Overall, in sites that were already designated (prior to Natura 2000) respondents tend to be more positive about the beneficial effects of the management discussion.

Prior designation also influences the perception of the impact of governmental measures in the area in the future but only a small effect is noted. In areas not yet designated respondents expect a bigger impact of governmental measures. These results might indicate that in areas already protected by national legislation prior to Natura 2000 designation, the co-operation between the involved actors is better developed and as a result overall the process is given a better evaluation by respondents. This seems to underpin the relevance of what we know in relation to existing tacit knowledge on the part of protected area managers who have stated their belief that co-operation becomes easier after areas have been designated longer. Participants in the workshop also had personally experienced that over time after designation things appear to go a bit smoother. This is in line with the findings of Wendler & Jessell (2004) that showed that in already designated sites stakeholders were less apprehensive of Natura 2000.

Furthermore, the survey shows only small differences between the four geographical areas. An exception is the question related to the discussion between the government and local stakeholders in which respondents of Flanders tend to disagree more with all statements when compared to the other countries. However as the survey was undertaken at the start of the management planning process in Flanders (when issues are likely to be at their most impacting for all those involved in the process) this might well explain the lower values in Flanders.

This survey does not show a pronounced effect linked to the site characteristic 'surface of agricultural use' in the Natura 2000 sites; except for where the issue is clearly dependent on the presence or absence of agricultural areas within the site, for instance for changes in forestry practice.

6.3 Suggestions for further research

Overall limited research – whether ecological, sociological or economic has been undertaken to evaluate the implementation of the Birds and Habitats Directive (Popescu *et al*. 2014). Evaluation research on the impact of the Natura 2000 policy at site level is therefore needed, whether quantitate or qualitative and preferable an evaluation that uses criteria that review ecological, economic and social aspects of implementation. This research might focus on actual changes occurring (e.g. in management, in ecological, sociological or economic impact) and the changes perceived by

stakeholders). Based on the results of this survey the following issues in particular might be further reviewed related to stakeholder perception:

- Differences between perceptions of those stakeholders involved in the planning process versus those which are not. This research principally reviewed the perceptions of those stakeholders in relation to Natura 2000 policy that are involved in planning processes. During the discussion of the results the question was raised that their perception might differ from the perceptions of affected stakeholders that are not or to a lesser extent part of the management planning processes.
- Underlying reasons of the differences that were noted between stakeholder's groups. Earlier research has suggested different reasons why policies are perceived differently by different groups such as interest, knowledge or values. Our research does indicate that there are differences in the perceptions of drivers and well as changes in management of the area (small effect) whilst several of the questions that relate to values attached overall show a moderate effect. This might suggest that values might be more important than knowledge but this issue requires further research.

7 Conclusions

This study reviewed the perceptions of key stakeholders involved in the management (planning) process in respect to the changes the designation of Natura 2000 brought to the management of their site in England, France, Flanders and the Netherlands. In three of these (e.g. France, Flanders and the Netherlands) specific management planning processes for Natura 2000 sites have been set up involving a broad range of stakeholders.

Based on the reviewed sites we conclude that in France, the Netherlands and Flanders similar groups of stakeholders are involved in this planning process. However the distribution over the various actor groups does show differences between the countries – in the Netherlands the percentage of representatives of the nature sector is higher than in France and Flanders whilst the percentage of governmental representatives involved is lower. As in England no specific planning process for Natura 2000 was set up for the sites, such a comparison cannot be made.

The survey that was undertaken in order to assess how these key stakeholders view the impact of Natura 2000 designation and the following process of management planning on the management of the site. In 91[7] sites, 2342 key stakeholders who were involved in the process were approached with the request to fill in the survey, resulting in 464 respondents (20%). Whilst it is the largest survey of this kind, given the relatively low response of the stakeholders involved in the survey and the limited number of sites reviewed, especially for France and England, caution should be exercised when drawing far-reaching conclusions or to applying the these results to all Natura 2000 sites in the reviewed geographical areas.

Overall, the results of the survey indicate that there seems to be an small to large effect of actor group on the perceptions of stakeholders in the area, especially in regards to statements that measure impacts or value judgements. This result underlines the importance of including a broad range of stakeholders in the discussions about the management of the area. The differences between the geographical areas are not prevalent – although in respect to the discussion on management, Flanders is an outlier. This might be because at the time of undertaking the survey the management planning process had only just started.

The status of prior designation in particular seems to affect the perception of respondents in relation to the beneficial aspects of the discussion between government and involved stakeholders to a small extent.

Based on the survey we can conclude the following:

- *Perception on the number of measures taken for habitats and species in Natura 2000 sites.*
  The majority of the respondents (63%) reported that – following the start of discussions on management plans and management– there was an increase in the number of measures for the species and habitats the site was designated for. Only 3% reported a decrease. The perception of the respondents does not appear to be influenced by the actor group they belong to, the geographical area they live in or the surface in agricultural use of the site.

- *Sufficiency of the current number of measures*
  When asked whether the current measures were considered sufficient to ensure a good conservation status of the species of the site, 8% considered them more than sufficient, 35% sufficient, 15% neutral, 25% not sufficient and 7% very insufficient. Nine percent of the respondents did not know. The opinion of respondents seems to be related to the type of actor group the respondents belong to. Overall, respondents from the nature sector consider that the

[7] Excluding test sites

current measures are less sufficient while respondents belonging to the agricultural sector find them sufficient. It is important to note that these are perceptions and do not therefore (necessarily) reflect the actual conservation status of the species in the site.

- *Beneficial aspects of the local discussion between the government and stakeholders on management of the site*
  The opinion of the respondents in relation to whether all interests have been given equal weight show a contrasting picture. 29% of the respondents indicate that all interests were given equal weight and 48% indicate that they were not. Opinions also vary in respect to the benefits of the management discussions for the site. More than 40% of the respondents agreed with the statements that the local process had created support for the measures, increased co-operation and had increased the awareness of the European importance of the site. However, 20% did not perceive increased co-operation (some even saw increasing conflicts). Although a majority perceived benefits from this process, respondents from the agricultural sector in particular see fewer benefits from the local discussions between government (the administrators of Natura 2000 process) and local stakeholders than other respondents.

- *Impact on local economy and well-being of residents*
  Asked about the impact of Natura 2000 designation and management on the future of the area, 44% of the respondents felt that Natura 2000 will have a positive to very positive impact for the local economy. But this response depends on actor type – respondents from the nature sector indicate a more positive impact than respondents belonging to other sectors. Furthermore, the majority of respondents (61%) felt the Natura 2000 designation will have a positive to very positive impact on the well-being of local residents.

References

Alphandéry, P. and A. Fortier (2001). "Can a territorial policy be based on science alone? The system for creating the Natura 2000 network in France." Sociologia Ruralis **41**(3): 311 - 328.

Alphandéry, P. and A. Fortier (2010). "Local settings and biodiversity a sociological approach to the implementation of the EC habitats directive in France." Current Sociology **58**(5): 755-776.

ARCADIS, ECNC and Eftec (2011). Recognising Natura 2000 benefits. Antwerp, ARCADIS Belgium.

Beunen, R. and J. R. de Vries (2011). "The governance of Natura 2000 sites: the importance of initial choices in the organisation of planning processes." Journal of Environmental Planning and Management **54**(8): 1041-1059.

Beunen, R., K. Van Assche and M. Duineveld (2013). "Performing failure in conservation policy: The implementation of European Union directives in the Netherlands." Land Use Policy **31**(0): 280-288.

Bogaert, D. and A. Gersie (2006). High noon in the low countries: Recent nature policy dynamics in the Netherlands and in flanders. Institutional dynamics in environmental governance, Springer**:** 115-138.

Bouwma, I., D. Liefferink, R. van Apeldoorn and B. Arts (2015). "Following Old Paths or Shaping New Ones in Natura 2000 Implementation? Mapping Path Dependency in Instrument Choice." Journal of Environmental Policy & Planning(ahead-of-print): 1-20.

Bryan, S. (2012). "Contested boundaries, contested places: The Natura 2000 network in Ireland." Journal of Rural Studies **28**(1): 80-94.

Cent, J., C. Mertens and K. Niedzialkowski (2013). "Roles and impacts of non-governmental organizations in Natura 2000 implementation in Hungary and Poland." Environmental Conservation **40**(2): 119-128.

Cohen, J. (1992). "A power primer." Psychological bulletin **112**(1): 155.

Dillman, D. A. (2000). Mail and internet surveys: The tailored design method, Wiley New York.

Dimitrakopoulos, P. G., N. Jones, T. Iosifides, I. Florokapi, O. Lasda, F. Paliouras and K. I. Evangelinos (2010). "Local attitudes on protected areas: Evidence from three Natura 2000 wetland sites in Greece." Journal of Environmental Management **91**(9): 1847-1854.

EEB (2011). Where there is a will there is a way. Brussels, European Environmental Bureau.

European Commission (2014). Natura 2000 Barometer- update december 2013. Natura 2000 Newsletter Number 36. July 2014. Brussel, European Commission.

European Environment Agency (2005). The European environment — State and Outlook 2005. Copenhagen, EEA.

European Environment Agency (2015). SOER 2015 — The European environment — state and outlook 2015. European Briefing - Land systems. Luxembourg, Publications Office of the European Union.

European Environmental Agency (2015). State of Nature in the EU. Results from reporting under the nature directives 2007–2012. Luxembourg, Publications Office of the European Union.

Fischer, F. and G. J. Miller (2006). Handbook of public policy analysis: theory, politics, and methods, crc Press.

Fries-Tersch, E., K. Sundseth and M. Ballesteros (2015). Report on the open public consultation of the 'fitness check' one the Birds and Habitats Directives. Final report for the European Commission, . Brussels, Milieu Ltd.

Gaston, K. J., S. E. Jackson, A. Nagy, L. Cantu-Salazar and M. Johnson (2008). "Protected areas in Europe - Principle and practice." Year in Ecology and Conservation Biology 2008 **1134**: 97-119.

Grodzinska-Jurczak, M. and J. Cent (2011). "Expansion of nature conservation areas: problems with Natura 2000 implementation in Poland?" Environ Manage **47**(1): 11-27.

Harzing, A.-W. (1997). "Response rates in international mail surveys: Results of a 22-country study." International Business Review **6**(6): 641-665.

Harzing, A.-W., B. S. Reiche and M. Pudelko (2013). "Challenges in international survey research: a review with illustrations and suggested solutions for best practice." European Journal of International Management **7**(1): 112-134.

Hiedanpaa, J. (2002). "European-wide conservation versus local well-being: the reception of the Natura 2000 Reserve Network in Karvia, SW-Finland." Landscape and Urban Planning **61**(2-4): 113-123.

Hirschnitz -Garbers, M. and S. Stoll-Kleeman (2011). "Opportunities and barriers in the implementation of protected area management: a qualitative meta-analysis of case studies from European protected areas." The Geographical Journal **177**(4): 321-334.

Kati, V., T. Hovardas, M. Dieterich, P. L. Ibisch, B. Mihok and N. Selva (2015). "The challenge of implementing the European network of protected areas Natura 2000." Conservation Biology **29**(1): 260-270.

Kettunen, M., S. Bassi, S. Gantioler and P. ten Brink (2009). "Assessing Socio-economic Benefits of Natura 2000–a Toolkit for Practitioners (September 2009 Edition). Output of the European Commission project Financing Natura 2000: Cost estimate and benefits of Natura 2000 (Contract No.: 070307/2007/484403/MAR/B2)." Institute for European Environmental Policy (IEEP), Brussels, Belgium.

Leach, W. D. (2002). "Surveying diverse stakeholder groups." Society &Natural Resources **15**(7): 641-649.

Ministerie van Landbouw Natuurbeheer en Visserij (2005). Handreiking Beheerplannen Natura 2000-gebieden. Den Haag, IFZ bedrijfsuitgeverij.

Mitchell, J. (2007). The Use (and Misuse) of Surveys Research in Policy Analysis. Handbook of Public Policy Analysis. Theory, Politics, and Methods. F. F., G. J. Miller and S. M.S. Boca Raton, CRC Press**:** 369-380.

Mouro, C. and P. Castro (2010). "Local communities responding to ecological challenges—A psycho-social approach to the Natura 2000 Network." Journal of Community & Applied Social Psychology **20**(2): 139-155.

Pietrzyk-Kaszyńska, A., J. Cent, M. Grodzińska-Jurczak and M. Szymańska (2012). "Factors influencing perception of protected areas—The case of Natura 2000 in Polish Carpathian communities." Journal for Nature Conservation **20**(5): 284-292.

Popescu, V. D., L. Rozylowicz, I. M. Niculae, A. L. Cucu and T. Hartel (2014). "Species, Habitats, Society: An Evaluation of Research Supporting EU's Natura 2000 Network."

Rauschmayer, F., S. van den Hove and T. Koetz (2009). "Participation in EU biodiversity governance: how far beyond rhetoric?" Environment and planning. C, Government & policy **27**(1): 42.

Schenk, A., M. Hunziker and F. Kienast (2007). "Factors influencing the acceptance of nature conservation measures--a qualitative study in Switzerland." J Environ Manage **83**(1): 66-79.

Shih, T.-H. and X. Fan (2008). "Comparing response rates from web and mail surveys: A meta-analysis." Field methods **20**(3): 249-271.

Souheil, H., L. Germain, D. Boivin and R. Douillet (2011). Document d'objectifs Natura 2000. Guide Méthodologique d'elaboration. Montpellier, Atelier Technique des Espaces Naturels.

Stoll-Kleemann, S. (2001). "Opposition to the designation of protected areas in Germany." Journal of Environmental Planning and Management **44**(1): 109-128.

Stoll-Kleemann, S., M. Welp and M. Eben (2006). Public Participation during Site Selections for Natura 2000 in Germany: The Bavarian Case. Stakeholder Dialogues in Natural Resources Management, Springer Berlin Heidelberg**:** 261-278.

Sumares, D. and T. Fidélis (2009). "Local perceptions and postures towards the SPA "Ria de Aveiro"." Journal of Integrative Environmental Sciences **6**(2): 121-137.

Wendler, W. and B. Jessel (2004). "Anwendung und Akzeptanz der FFH-Richtlinie in Deutschland und Frankreich." Naturschutz und Landschaftsplanung **36**(11): 347-352.

WWF (1999). NATURA 2000 -opportunities and obstacles. Vienna, WWF Austria.

WWF (2009). Natura 2000- succesfull, flexible, modern- facts and findings. Frankfurt am Main, WWF Germany**:** 32.

Young, J. C., A. Jordan, K. R. Searle, A. Butler, D. S. Chapman, P. Simmons and A. D. Watt (2013). "Does stakeholder involvement really benefit biodiversity conservation?" Biological Conservation **158**: 359-370.

Justification

This study was supervised by Henk van Zeijts (PBL). The results of the survey were discussed during a workshop held on the 8 of July 2015 in which the following people participated:

- Mr. Wilbert van Vliet (Natural England)
- Mr. Bernie Fleming (Fleming Ecology)
- Mr. Bastien Coignon (Référent scientifique Natura 2000)
- Mr. Thomas Biéro (DREAL Basse-Normandie)
- Ms. Sophie Bougard (DREAL Haute Normandie)
- Mr. Thomas Defoort (Agentschap voor Natuur en Bos)
- Mr. Lon Lommaert (Instituut voor Natuur- en Bosonderzoek (INBO)
- Mr. René de Vries, Ministerie van Economische Zaken)
- Mr. Gerrit Valkeman (Provincie Overijssel)
- Mr. Patrick Nuvelstijn (Natuurmonumenten)
- Mr. Gerard Jonkman (Staatsbosbeheer)
- Mr. Henk van Zeijts (PBL)
- Ms. Irene Bouwma (Alterra Wageningen UR)
- Ms. Dana Kamphorst (Alterra Wageningen UR)
- Mr. Lawrence Jones-Walters (Alterra Wageningen UR)

A report of the meeting is available on request.

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Annex 1 List of sites selected for the survey and their main characteristics

	IDS	Name	Perc_agr	Des92	IUCN class	Date of des.SPA/SAC	N 2000 management plan
	Flanders						
1	BE2100015_BE2100323	Kalmthoutse Heide (partial test site)	15.0	41.3	IV	1988/ **2011**	2014
2	BE2100016_BE2101437	Schietvelden	47.5	0.0		1988/ **2012**	2014
3	BE2100020	Heesbossen	46.4	0.0		**2011**	2014
4	BE2101538_BE2100024	Turnhouts Vennengebied	59.8	8.6	IV	1988/ **2012**	2014
5	BE2200028_BE2200626	De Maten	34.1	37.9	IV	1988/ **2011**	2014
6	BE2200029_BE2218311	Zwarte beek	22.0	4.1	IV	1988/ ?	2014
7	BE2200030_BE2220313	Mangelbeek en Peer	24.4	3.5	IV	1988/ **2012**	2014
8	BE2200031_BE2219312_BE2200525	Vijvergebied Midden Limburg	28.0	17.6	IV	1988/ **2014**	2014
9	BE2200038	Haspengouw	57.9	0.0		**2012**	2014
10	BE2200042	Overgang Kempen-Haspengouw	34.3	0.0		**2012**	2014
11	BE2200043	Bosbeekvallei	37.5	2.0	IV	**2012**	2014
12	BE2200727_BE2200035	Hoge Kempen	4.8	28.8	IV	1988/ **2012**	2014
13	BE2300005#1	Zandig Vlaanderen: Oost- Oost	47.0	1.9	IV	**2011**	2014
14	BE2300044	Zandleemstreek	60.0	0.0		?	2014
15	BE2400009	Hallerbos	45.9	0.0		**2011**	2014
16	BE2400010	Valleigebied Kampenhout	30.4	2.4	IV	**2011**	2014
17	BE2400014_BE2223316	Demervallei	52.4	5.5	IV	1988/ **2012**	2014
18	BE2422315_BE2400011	Dijlevallei	28.1	7.2	IV	1988/ **2011**	2014
19	BE2500003	Westvlaams Heuvelland	62.4	0.0		**2011**	2014
20	BE2300007#1	Vlaamse Ardennen Oost	42.5	0.0		**2011**	2014
21	BE2100040	Grote Nete	59.8	3.9	IV	**2012**	2014
22	BE2500004	Zandig Vlaanderen West	37.7	1.2	IV	**2011**	2014
	France						
1	FR2500118	Bassin de la Druance	84.9	0.0		**2010**	2007
2	FR2300123	Boucles De La Seine Aval	67.8	0.4	Ia, IV	2014	2002
3	FR1100797	Coteaux Et Boucles De La Seine	15.2	1.4	IV	**2010**	2007
4	FR7300891	Etangs d'Armagnac	60.6	0.0		**2008**	2003
5	FR5402008	Haute vallée de la Seugne en amont de pons et affluents	85.6	0.0		**2009**	2012

	IDS	Name	Perc_agr	Des92	IUCN class	Date of des.SPA/SAC	N 2000 management plan
6	FR2502001	Hêtraie de Cerisy	1.5	96.9	IV	**2015**	2009
7	FR7200738	L'Ourbise	56.6	13.4	IV	?	?
8	FR3110083	Marais de Balancon (test site)	30.5	0.0		2005	2014
9	FR5300002	Marais de Vilaine	87.1	0.0		**2008**	2008
10	FR2500092	Marais du Grand Hazé	25.7	95.4	IV	**2006**	
11	FR2200350	Massif forestier de Lucheux	18.9	0.0		?	No date, after 2000
12	FR2300133	Pays de Bray -Cuestas Nord et Sud	43.3	0.0		?	2008
13	FR3100484	Pelouses et bois neutrocalcicoles de la cuesta sud du Boulonnais	43.8	40.9	IV	**2007**	2005
14	FR3100494	Prairies et marais tourbeux de Guines	16.8	58.8	IV	2015	2005
15	FR1112013	Sites de Seine-Saint-Denis	0.7	0.4	IV	2006	2010
16	FR5300067	Tourbiére de Lann Gazel	7.3	87.8	IV	**2007**	2008
17	FR2500082	Littoral Ouest du Cotentin de Saint-Germain-sur-Ay au Rozel	12.1	37.0	IV	?	2014
18	FR2500083	Massif dunaire de Héauville à Vauville	14.9	10.6	IV		Under devl.
	Netherlands						
1	NL2000002	Bargerveen	16.2	95.0	IV	1992/ **2013**	Under development (UD)
2	NL9801016	Borkeld	16.6	0.0	IV	**2013**	Concept decision
3	NL3009003_NL9801055	Brabantse Wal	9.3	0.3	IV	2000/ **2013**	UD
4	NL9801019	Buurserzand En Haaksbergerveen	33.8	0.0		**2013**	UD
5	NL2003014	Drouwenerzand	3.1	0.0		**2013**	UD
6	NL2003058_NL3009006	Duinen Schiermonnikoog	2.0	91.8	II, IV	2000/ **2009**	UD
7	NL3000070	Dwingelderveld	14.4	95.5	II	1996/ **2013**	UD
8	NL2003015	Elperstroomgebied	72.4	0.0		**2010**	UD
9	NL2000010_NL3000401	Kampina & Oosterwijkse vennen	12.2	53.4	IV	1986/ **2013**	UD
10	NL1000022	Kempenland-West	15.8	53.2	IV	**2013**	UD
11	NL3004003	Landgoederen Oldenzaal	58.1	3.8	IV	**2013**	UD
12	NL2003026	Langstraat	93.2	0.0		**2013**	UD
13	NL3009014 _NL9801036	Leenderbos, Groote Heide & De Plateaux	20.6	0.0		**2013**	UD
14	NL2003032	Mantingerzand	27.5	0.0		**2013**	UD
15	NL2000008	Meinweg	5.0	2.4	IV	1994/ **2013**	UD
16	NL3000061_NL2000012	Naardermeer	21.9	93.0	IV	1986/ **2013**	UD
17	NL2003036_NL9802060	Oostelijke Vechtplassen_	25.1	0.1	IV	2000/ **2013**	UD
18	NL2003043	Sarsven En De Banen	60.9	60.9	IV	**2013**	UD
19	NL1000016	Solleveld	9.1	0.0		**2011**	2013

	IDS	Name	Perc_agr	Des92	IUCN class	Date of des.SPA/SAC	N 2000 management plan
20	NL9801025	St. Pietersberg En Jekerdal	72.1	50.4	IV	**2013**	UD
21	NL2003045	Swalmdal	46.7	0.4	IV	**2013**	UD
22	NL2003047	Ulvenhoutse Bos (test site)	10.7	0.0		**2010**	UD
23	NL9801017	Vecht- en Beneden-Reggegebied	24.8	1.7	IV	**2014**	UD
24	NL3009004 _NL2003064_NL2000013_ NL9801013	Wieden_Weerribben	24.5	25.3	IV	1986/ 2000/ **2015/ 2013**	UD
25	NL9802048	Witte En Zwarte Brekken	52.4	0.0		2000/ **2010**	UD
26	NL2003054_NL9802058	Wormer- En Jisperveld En Kalverpolder	95.5	0.0		2000/ **2015**	UD
27	NL3009007_NL2003059	Duinen van Terschelling	7.5	0.0		2000/ **2009**	UD
	England						
1	UK0012586	Windsor Forest and Great Park	2.4	0.0		**2005**	**NA**
2	UK0012799	The Lizard	24.4	54.7	IV	**2005**	**NA**
3	UK0012809_UK9009101	Minsmere to Walberswick Heaths and Marshes_Minsmere-Walberswick	21.7	1.8	IV	1992/ **2005**	**NA**
4	UK0012882	Waveney and Little Ouse Valley Fens	33.2	73.8	IV	**2005**	**NA**
5	UK0013658	Cotswold Beechwoods	25.8	79.1	IV	**2005**	**NA**
6	UK0013697	Blean Complex	2.3	83.2	IV	**2005**	**NA**
7	UK0019859	Peak District Dales	50.3	52.9	IV	**2005**	**NA**
8	UK0019864	Sidmouth to West Bay	20.6	77.6	IV	**2005**	**NA**
9	UK0030053	Orton Pit	46.1	0.0		**2005**	**NA**
10	UK0030082	Aston Rowant	60.2	81.9	IV	**2005**	**NA**
11	UK0030115	Cerne and Sydling Downs	100	57.6	IV	**2005**	**NA**
12	UK0030165	Hastings Cliffs	61.4	69.9	IV	**2005**	**NA**
13	UK0030241	Polruan to Polperro	35.2	0.0		**2005**	**NA**
14	UK0012724	Chilterns Beechwoods	11.0	78.6	IV	?	**NA**
15	UK0030285	Subberthwaite, Blawith and Torver Low Commons	8.2	0.0		**2005**	**NA**
16	UK0030299	West Dorset Alder Woods	63.6	29.2	IV	**2005**	**NA**
17	UK0030301	Wimbledon Common	8.9	86.4	IV	**2005**	**NA**
18	UK0030302	Witherslack Mosses	6.8	24.7	IV	**2005**	**NA**
19	UK0030328	Briddlesford Copses	22.2	65.9	IV	**2005**	**NA**
20	UK0012720	Epping Forest	4.4	84.3	IV	**2005**	**NA**
21	UK0030367	Pevensey Levels	93.1	94.3	IV	?	**NA**
22	UK9005091	Leighton Moss	0.8	86.1	IV	1985	**NA**
23	UK9010031	Somerset Levels and Moors.	91.8	93.8	IV	1997	**NA**
24	UK9012132_UK0030304	Wealden Heaths Phase 2_Woolmer Forest	1.2	28.1	IV	1998/ **2005**	**NA**
25	UK9020286	Sandlings	8.0	16.0	IV	2001	**NA**
26	UK9020296	Upper Nene Valley Gravel Pits	30.9	4.9	IV	2011	**NA**
27	UK0013059	Dungeness	0.0	6.1		2005	**NA**

Relation between IUCN classification and the national designations for each country (national designation as present prior to 1993).

Flanders: IV: Bosreservaat, Erkend natuurreservaat of Vlaams natuurreservaat
France: Ia: Réserve biologique IV: Arrête de protection de biotope, Réserve biologique, Réserve nationale de chasse et de faune sauvage, Réserve naturelle nationale, Terrain acquis par le Conservatoire du Littoral.

Netherlands: II: Nationaal Park IV: Natuurbeschermingswet.

England: IV: Local Nature Reserve, Marine Conservation Zone, Marine Nature Reserve, National Nature Reserve, Site of Special Scientific Interest.

Annex 2 Survey (English)

Management of Natura 2000 sites

Introduction to the survey

This survey has been developed as part of a research project, the goal of which is to review the management of Natura 2000 sites in North-Western Europe. The research is being carried out by Alterra on behalf of the Dutch Environmental Assessment Agency (PBL) in preparation for the Dutch Presidency of the European Union in 2016.

The survey has been sent out to different stakeholders either directly involved in the management or the discussion regarding the management of 100 Natura 2000 sites in the Netherlands, England, Flanders and France. The aim is to assess whether stakeholders feel changes have taken place in the use and management of the area since the discussion regarding the management of the area began, and if so, what these changes are. Also being assessed are the reasons the stakeholders feel these changes have taken place and what their expectations are for the future.

The survey consists of four parts:

• General information regarding the Natura 2000 area and your involvement in the area;
• Questions regarding the discussion of the management of the area in the framework of Natura 2000 as well as any management measures implemented;
• Questions regarding changes you have noticed in the management and use of the area and the reasons you feel these changes have taken place (such as economic developments or governmental measures);
• Questions regarding your expectations for the future of the area;

Management of Natura 2000 sites

I General information

***1. Please state the name of the (Natura 2000) site for which you are completing this survey? (click on the first box to access the list of site names)**

Other (please specify)

***2. How long have you been involved with the site?**

- ◯ 0- 5 years
- ◯ 6-10 years
- ◯ > 10 years

***3. How would you describe your current involvement in and/or management responsibility for the Natura 2000 site?**

- ◯ Owner and or manager of land within or bordering the site
- ◯ Representative of the owners or users of the site or its surroundings
- ◯ Local public official
- ◯ Regional level public official
- ◯ Other stakeholder, please specify

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Management of Natura 2000 sites

I General information

***4. As a manager or owner to which sector do you belong? (if you belong to more than one please indicate the most important one)**

- ◯ Agriculture
- ◯ Forestry
- ◯ Nature conservation
- ◯ Hunting
- ◯ Fishing
- ◯ Tourism and Recreation
- ◯ Other

Management of Natura 2000 sites

I General information

***5. As a representative of the owners and users of the site, which sector do you represent?**

- ◯ Agriculture
- ◯ Forestry
- ◯ Nature conservation
- ◯ Hunting
- ◯ Fishing
- ◯ Tourism and Recreation
- ◯ Other

***6. In which year did you learn that the area would be designated as a Natura 2000 site?**

Management of Natura 2000 sites

II Natura 2000

The following questions are specifically related to the management measures that have been implemented given the status of the area as a Natura 2000 site.

Management of Natura 2000 sites

II Natura 2000

***7. Are there specific conservation objectives set for Natura 2000 in this area?**

- ◯ Yes
- ◯ No
- ◯ I do not know

8. Is in the framework of Natura 2000, a discussion ongoing between the government and the involved parties on the management of the area (please indicate which you feel is most applicable)

- ◯ Yes, this discussion started as a result of the designation of the Natura 2000 area
- ◯ Yes, this discussion started as a result of the setting of regional conservation goals for Natura 2000
- ◯ Yes, this discussion started as a result of the setting of the conservation goals for the Natura 2000 area
- ◯ Yes, this discussion started as a result of development of a management plan for the Natura 2000 area
- ◯ Yes, but the discussion is not new but a continuation of a discussion that already took place prior to its designation as a Natura 2000 area
- ◯ No, the discussion between the government and involved parties has not (yet) started

II Natura 2000

***9. In which year did the discussion start?**

Management of Natura 2000 sites

II Natura 2000

***10. What is your opinion in relation to the following statements about the discussions concerning the management of the area between officials and stakeholders?**

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	I do not know	Not applicable
In the local discussion all interests were given equal weight	◯	◯	◯	◯	◯	◯	◯
Local discussions led to better access to available funding for management activities	◯	◯	◯	◯	◯	◯	◯
The local process generated support for the implemented measures	◯	◯	◯	◯	◯	◯	◯
The local process increased co-operation between the various stakeholders	◯	◯	◯	◯	◯	◯	◯
The local process increased the number of conflicts	◯	◯	◯	◯	◯	◯	◯
The local process increased the number of citizen initiatives regarding the management of the area	◯	◯	◯	◯	◯	◯	◯
The local process increased awareness of the European importance of this site amongst the stakeholders	◯	◯	◯	◯	◯	◯	◯

Management of Natura 2000 sites

II Natura 2000

***11. Did the number of measures implemented for the species or habitats for which the site is designated change following the start of the discussions about the management?**

- ◯ Sharp increase
- ◯ Slight increase
- ◯ No change
- ◯ Slight decrease
- ◯ Sharp decrease
- ◯ I do not know

II Natura 2000

***12. Do you think that the measures implemented in the area for the species and habitats are sufficient to ensure a good conservation status of the species?**

- ◯ More than sufficient
- ◯ Sufficient
- ◯ Neutral
- ◯ Insufficient
- ◯ Very insufficient
- ◯ I do not know

Management of Natura 2000 sites

II Natura 2000

***13. Could you indicate how your sector perceives the following measures that might be taken in the area for the benefit of the Natura 2000 species and habitats?**

	Highly beneficial	limited beneficial	neutral	small encumbrance	large encumbrance	not applicable
Rewetting	◯	◯	◯	◯	◯	◯
Decrease in fertilisation	◯	◯	◯	◯	◯	◯
Delay of mowing/ harvest date (gras, crops)	◯	◯	◯	◯	◯	◯
Reduction in wood harvest	◯	◯	◯	◯	◯	◯
Extensification of grazing	◯	◯	◯	◯	◯	◯
Intensification of grazing	◯	◯	◯	◯	◯	◯
Restrictions in recreational access	◯	◯	◯	◯	◯	◯
Restrictions for hunting/ fishing	◯	◯	◯	◯	◯	◯
Other, please specify	◯	◯	◯	◯	◯	◯

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III Changes in the management of the area in the last years

The following questions relate to changes you might have observed in the management and use of the area in recent years. There are many possible reasons for these changes – so not only changes that are the result of the discussion regarding the management of the site in the framework of Natura 2000. Please indicate the reasons you feel the changes might have taken place.

Management of Natura 2000 sites

III Changes in the management of the area in the last years

***14. To what extent have you noticed changes in the management and/or use of the area in the last 10 years?**

	Sharp increase	Slight increase	No change	Slight decrease	Sharp decrease	I do not know	Not applicable
Hunting	◯	◯	◯	◯	◯	◯	◯
Fishing	◯	◯	◯	◯	◯	◯	◯
Recreational use	◯	◯	◯	◯	◯	◯	◯
Conversion from grassland to arable land	◯	◯	◯	◯	◯	◯	◯
Conversion from arable land to grassland	◯	◯	◯	◯	◯	◯	◯
Land abandonment	◯	◯	◯	◯	◯	◯	◯
Conversion from agricultural land to natural or semi-natural land	◯	◯	◯	◯	◯	◯	◯
Conversion from agricultural land to urban area (industrial or residential)	◯	◯	◯	◯	◯	◯	◯

Management of Natura 2000 sites

III Changes in the management of the area in the last years

***15. How do you rate the changes in the management of the site for the following sectors?**

	Very positive	Positive	Neutral	Negative	Very negative	No opinion
Agriculture	◯	◯	◯	◯	◯	◯
Forestry	◯	◯	◯	◯	◯	◯
Fishing	◯	◯	◯	◯	◯	◯
Hunting	◯	◯	◯	◯	◯	◯
Nature	◯	◯	◯	◯	◯	◯
Tourism and Recreation	◯	◯	◯	◯	◯	◯

Management of Natura 2000 sites

III Changes in the management of the area in the last years

***16. To what extent have you noticed changes in the management of the agricultural land in the site in the last 10 years?**

	Sharp increase	Slight increase	No change	Slight decrease	Sharp decrease	I do not know	Not applicable
Drainage activities	◯	◯	◯	◯	◯	◯	◯
Fertilisation	◯	◯	◯	◯	◯	◯	◯
Amount of grass or crops harvested	◯	◯	◯	◯	◯	◯	◯
Area in which different crops are grown	◯	◯	◯	◯	◯	◯	◯
Area with a delayed or modified schedule of mowing or grazing	◯	◯	◯	◯	◯	◯	◯
Number of grazing livestock	◯	◯	◯	◯	◯	◯	◯

III Changes in the management of the area in the last years

***17. To what extent have you noticed changes in the management of the forests in the site in the last 10 years?**

	Sharp increase	Slight increase	No change	Slight decrease	Sharp decrease	I do not know	Not applicable
Drainage activities	◯	◯	◯	◯	◯	◯	◯
Amount of wood harvested	◯	◯	◯	◯	◯	◯	◯
Amount of dead wood left in forests	◯	◯	◯	◯	◯	◯	◯
Management of invasive species or pests	◯	◯	◯	◯	◯	◯	◯
Use of native tree species	◯	◯	◯	◯	◯	◯	◯
Area employing less damaging harvesting methods	◯	◯	◯	◯	◯	◯	◯

***18. Can you indicate which of the following factors have contributed to changes in the management or use of the area?**

	Very high impact	High impact	Medium impact	Low impact	No impact	I do not know	Not applicable
Agricultural prices	◯	◯	◯	◯	◯	◯	◯
Land prices	◯	◯	◯	◯	◯	◯	◯
Population development in the area	◯	◯	◯	◯	◯	◯	◯
Increase in the demand for alternative energy sources or bio-energy	◯	◯	◯	◯	◯	◯	◯
Climate change	◯	◯	◯	◯	◯	◯	◯
Recreational use	◯	◯	◯	◯	◯	◯	◯

Management of Natura 2000 sites

III Changes in the management of the area in the last years

***19. Can you indicate which of the following measures taken by the government have contributed to changes in the management of the area?**

	Very high impact	High impact	Medium impact	Low impact	No impact	I do not know	Not applicable
Legal rules or regulations for certain activities in the area due to Natura 2000	◯	◯	◯	◯	◯	◯	◯
Requirement to develop a management plan	◯	◯	◯	◯	◯	◯	◯
Establishing regional objectives for Natura 2000	◯	◯	◯	◯	◯	◯	◯
Availability of subsidies or compensation payments for owners, users or environmental organisations resulting from Natura 2000	◯	◯	◯	◯	◯	◯	◯
Funding for nature management by state nature institutes (e.g. Natural England)	◯	◯	◯	◯	◯	◯	◯

IV The management of the area in the future

The following questions relate to the future development of the area in the next 10 years.

Management of Natura 2000 sites

IV The management of the area in the future

***20. To what extent, according to you, will the following factors influence the management of the area in the next 10 years?**

	Very high impact	High impact	Medium impact	Low impact	No impact	I do not know	Not applicable
Development of agricultural prices	◯	◯	◯	◯	◯	◯	◯
Land prices	◯	◯	◯	◯	◯	◯	◯
Population development in the area	◯	◯	◯	◯	◯	◯	◯
Increase in the demand for alternative energy sources or bio-energy	◯	◯	◯	◯	◯	◯	◯
Climate change	◯	◯	◯	◯	◯	◯	◯
Recreational use	◯	◯	◯	◯	◯	◯	◯

Management of Natura 2000 sites

IV The management of the area in the future

***21. To what extent, according to you, will the following governmental measures influence the management of the area in the next 10 years?**

	Very high impact	High impact	Medium impact	Low impact	No impact	I do not know	Not applicable
Legal rules or regulations for certain activities in the area due to Natura 2000	◯	◯	◯	◯	◯	◯	◯
Implementation of the management plans	◯	◯	◯	◯	◯	◯	◯
Availability of subsidies or compensation payments for owners, users or environmental organisations resulting from Natura 2000	◯	◯	◯	◯	◯	◯	◯
Funding for nature management by state nature institutes (e.g. Natural England)	◯	◯	◯	◯	◯	◯	◯
Increased societal involvement in nature protection; more responsibility for local stakeholders and less governmental interference	◯	◯	◯	◯	◯	◯	◯

Management of Natura 2000 sites

IV The management of the area in the future

***22. What type of impact do you feel the designation and management of the area as Natura 2000 area will have on the future of the area in the following fields?**

	Very positive	Positive	Neutral	Negative	Very negative	I do not know
Local economy	◯	◯	◯	◯	◯	◯
Quality of life of local residents	◯	◯	◯	◯	◯	◯

Management of Natura 2000 sites

IV The management of the area in the future

23. If you have any other comments, please indicate them here

24. Thank you very much for completing this survey. If you wish to be informed of the results of this survey please enter your email address here:

Annex 3 Statistical analysis of survey results

In order to analyse the results of the survey the following statistical test were undertaken.

T-test
As the number of respondents belonging to different groups identified in the survey was low it was decided to asses if respondents could be clustered in groups. A T-test was performed on all questions of the survey to assess the effect of clustering on the outcomes. Based on the outcomes of the T-test it was decided to cluster the respondents in six actor groups being:

- Users/owners or representative from the agricultural sector
- Users/owners or representative from the forestry sector
- Users/owners or representative from the nature sector
- Users/owners or representative from all other sectors
- Representatives of local or regional authorities
- Other stakeholders

In order to get a first feeling of the strength of the explanatory factors an ANOVA test was run for the factors 'actor group' and 'geographical area' and a regression analysis for the site characteristics 'percentage agriculture' and 'percentage designated status'. As the ANOVA test only shows whether there is a difference between the groups, the ANOVA test was followed by a Tukey Post hoc to assess which groups show significant difference.

Furthermore also a bivariate analyses using Spearman was run as some of the reviewers questioned the data were normal distributed and whether five classes was enough for the preformed ANOVA and regression test. In case both analyses showed a significant effect ($p < 0.05$) it was felt that a significant effect did exist. For the cases both tests indicated a significant effect result - - the results of the ANOVA test are included in this report.

After the first two test on significant, the R^2 value was considered. Only in case the R^2 value was 0.10 or higher the significant effect was reported.

As the data in the survey might not be independent (as different respondents review similar sites and the sites are located in similar geographical areas) following the ANOVA or regression test a Two way ANOVA was to assess further the strength of the outcomes found. The two-way ANOVA can assess whether the effects of one factor depend on the other factor and helps to assess the main effect of each independent factor.

In the table hereafter the results of the statistical analysis for each question are presented. Please note that the questions in this table are abbreviated - for the correct wording of the questions see Annex 2.

Legend

Significance

no significant effect (p, > 0.05)
both analyses ANOVA/regressie+ Spearman p> 0.05 number indicated is S of ANOVA analysis
Only ANOVA/ regression p> 0.05
Only Spearman p> 0.05

Interpretation of R2 effect (based on Cohen, 1992)
<=0.02 no effect
>0.02< 0.13 small effect (blue)
> 0.13 < 0.26 moderate effect (pink)
> 0.26 large effect (orange)

	Step 1				**Step 2**			
	ANOVA		Regression		R^2			
	Actor type	Geopolitical area	% Agricultural surface	% Designated < 1993	Actor type	Geopolitical area	% Agricultural surface	% Designated < 1993
Q10. All interest were given equal weight	0.00	0.00		0.002	0.11	0.07		0.03
Q10.Local discussions led to better access to available funding for management activities	0.00	0.00		0.00	0.10	0.25		0.06
Q10.The local process generated support for the implemented measures	0.00	0.00		0.00	0.17	0.23		0.06
Q10.The local process increased cooperation between the various stakeholders	0.00	0.00		0.011	0.15	0.16		0.02
Q10.The local process increased the number of conflicts	0.001	0.00		0.00	0.06	0.07		0.04
Q10.The local process increased the number of citizen initiatives regarding the management of the area		0.00	0.038			0.10	0.02	
Q10.The local process increased awareness of the European importance of this site amongst the stakeholders	0.00	0.002			0.08	0.05		
Q 11 Did the number of measures implemented change?				0.019				0.02

	Step 1				Step 2			
	ANOVA		Regression		R^2			
	Actor type	Geopolitical area	% Agricultural surface	% Designated < 1993	Actor type	Geopolitical area	% Agricultural surface	% Designated < 1993
Q12 Do you think that the measures implemented are sufficient?	0.00				0.09			
Q 13. Could you indicate how your sector perceives ? - Rewetting	0.00	0.00			0.30	0.19		
Q13.Decrease in fertilisation	0.00	0.00			0.34	0.09		
Q13.Delay of mowing/ harvest date (gras, crops)	0.00	0.00			0.23	0.19		
Q13.Reduction in wood harvest	0.00	0.019			0.11	0.04		
Q13.Extensification of grazing	0.00	0.00		0.001	0.19	0.09		0.04
Q13. Intensification of grazing		0.006				0.04		
Q13. Restriction in recreational access	0.00	0.003	0.003		0.08	0.04	0.03	
Q13.Restrictions for hunting/ fishing	0.00	0.009	0.007		0.18	0.04	0.03	
Q14.To what extent have you noticed changes in the management and/or use of the area in the last 10 years? - Hunting	0.02	0.002			0.05	0.06		
Q14, Fishing								
Q14. recreational use		0.00	0.025			0.08	0.02	
Q14. Conversion from grassland to arable land								
Q14. Conversion from arable land to grassland	0.038	0.008			0.05	0.05		
Q14.Land abandonment		0.008		0.045		0.06		0.02
Q14.Conversion from agricultural land to natural or semi natural land	0.01	0.00			0.06	0.21		
Q14.Conversion from agricultural land to urban area (industrial or residential)								
Q15. How do you rate the changes in the management of the site for the following sectors? - Agriculture	0.00	0.00			0.08	0.16		
Q15Forestry	0.00		0.029		0.08		0.02	
Q15Fishing	0.003	0.034			0.08	0.04		
Q15Hunting	0.00	0.00			0.12	0.06		

	Step 1				Step 2			
	ANOVA		Regression		R^2			
	Actor type	Geopolitical area	% Agricultural surface	% Designated < 1993	Actor type	Geopolitical area	% Agricultural surface	% Designated < 1993
Q15Nature	0.00		0.230	0.022	0.15		0.02	0.02
Q15Tourism & recreation	0.00				0.07			
Q16. Change in agricultural land - drainage								
Q16. Fertilisation	0.00				0.10			
Q16. Amount of crop harvested	0.00				0.11			
Q16. Different crops	0.05				0.06			
Q16. Delayed mowing date								
Q16. Livestock density	0.04		0.000		0.05		0.07	
Q17. Forestry - drainage		0.009				0.06		
Q17 Forestry - amount harvested								
Q17. Forestry - amount of dead wood		0.003	0.005			0.07	0.04	
Q17. Forestry - invasive species	0.03	0.016			0.06	0.05		
Q17. Forestry - native trees		0.00				0.20		
Q17. Forestry - harvesting methods		0.02				0.06		
Q18.Can you indicate which of the following factors have contributed to changes in the management or use of the area? - Agricultural prices								
Q18.Land prices		0.00		0.005		0.12		0.03
Q18.Population development in the area		0.00				0.07		
Q18. Increase in the demand for alternative energy sources or bioenergy	0.04		0.043		0.05		0.02	
Q18.Climate change	0.033		0.018		0.05		0.02	
Q18.Recreational use	0.20	0.002	0.00		0.05	0.05	0.06	
Q19. Legal rules or regulations for certain activities in the area due to Natura								

	Step 1				Step 2			
	ANOVA		Regression		R^2			
	Actor type	Geopolitical area	% Agricultural surface	% Designated < 1993	Actor type	Geopolitical area	% Agricultural surface	% Designated < 1993
Q19.Requirement to develop a management plan		0.036				0.03		
Q19. Establishing national/regional objectives for Natura 2000		0.008				0.04		
Q19. Availability of subsidies or compensation payments for owners, users or environmental organisations resulting from Natura								
Q19. Funding for nature management by state nature institutes (e.g. Natural England)		0.006				0.04		
Q20.To what extent, according to you, will the following factors influence the management of the area in the next 10 years?? - Agricultural prices			0.002				0.03	
Q20.Land prices		0.00		0.00		0.13		0.05
Q20.Population development in the area		0.00				0.12		
Q20. Increase in the demand for alternative energy sources or bioenergy		0.006				0.04		
Q20.Climate change	0.00	0.001			0.09	0.06		
Q20.Recreational use	0.004	0.006	0.001		0.05	0.04	0.03	
Q21. Legal rules or regulations for certain activities in the area due to Natura		0.00		0.001		0.10		0.04
Q21.Implementation of the management plan		0.00		0.005		0.09		0.03
Q21. Availability of subsidies or compensation payments for owners, users or environmental organisations resulting from Natura		0.008				0.04		
Q21. Funding for nature management by state nature institutes		0.036				0.03		
Q21. Increased societal involvement in nature protection		0.00		0.03		0.09		0.02
Q 22 - What type of impact do you feel did the designation and management will have? Local economy	0.00	0.00			0.17	0.06		
Q 22 - What type of impact do you feel did the designation and management will have? Quality of life	0.00		0.025		0.17		0.02	

Annex 4 Results of the survey presented by geographical area

Q2: How long have you been involved with the site?

	All countries		England		France		Netherlands		Flanders	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
0-5 years	120	25.9	13	17.6	49	33.6	25	17.2	33	33.3
6-10 years	94	20.3	18	24.3	39	26.7	25	17.2	12	12.1
> 10 years	250	53.9	43	58.1	58	39.7	95	65.5	54	54.5
Total	464	100	74	100.0	146	100	145	100.0	99	100.0

Q7: Are there specific conservation objectives set for Natura 2000 in this area?

	All countries		England		France		Netherlands		Flanders	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
yes	377	81.3	54	73.0	108	74.0	133	91.7	82	82.8
no	14	3.0	4	5.4	5	3.4	3	2.1	2	2.0
do not know	73	15.7	16	21.6	33	22.6	9	6.2	15	15.2
Total	464	100.0	74	100.0	146	100.0	145	100.0	99	100.0

Q8: Is in the framework of Natura 2000, a discussion ongoing between the government and the involved parties on the management of the area

	All countries		England		France		Netherlands		Flanders	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Yes, due to the setting of regional conservation goals	33	7.1	20	27.8	42	28.8	22	15.2	11	11.1
Yes, due the setting of the conservation goals	53	11.5	2	2.8	9	6.2	5	3.4	17	17.2
Yes, due to the designation	95	20.6	3	4.2	19	13	14	9.7	17	17.2
Yes, due to the development of a management plan	105	22.7	4	5.6	31	21.2	47	32.4	23	23.2
Yes, but a continuation of a ongoing discussion	122	26.4	33	45.8	34	23.3	46	31.7	9	9.1
No, not (yet) started	54	11.7	10	13.9	11	7.5	11	7.6	22	22.2
Total	462	100.0	72	100.0	146	100	145	100	99	100

Q10: What is your opinion in relation to the following statements about the discussions concerning the management of the area between officials and stakeholders?

Q10A: In the local discussion all interests were given equal weight

	All countries		England		France		Netherlands		Flanders	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Strongly agree	15	4.3	6	10.7	6	5.5	1	.9	2	3
Agree	88	25.2	15	26.8	31	28.4	35	29.9	7	10.4
Neutral	80	22.9	11	19.6	28	25.7	23	19.7	18	26.9
Disagree	84	24.1	13	23.2	22	20.2	34	29.1	15	22.4
Strongly disagree	43	12.3	1	1.8	8	7.3	16	13.7	18	26.9
Do not know	33	9.5	10	17.9	13	11.9	6	5.1	4	6
Not applicable	6	1.7	0	0	1	0.9	2	1.7	3	4.5
Total	349	100.0	56	100	109	100.0	117	100.0	67	100

Q10B: Local discussions led to better access to available funding for management activities

	All countries		England		France		Netherlands		Flanders	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Strongly agree	20	5.7	9	16.1	8	7.3	3	2.6	0	0
Agree	98	28.1	24	42.9	46	42.2	20	17.1	8	11.9
Neutral	79	22.6	11	19.6	26	23.9	31	26.5	11	16.4
Disagree	61	17.5	2	3.6	7	6.4	33	28.2	19	28.4
Strongly disagree	30	8.6	3	5.4	2	1.8	11	9.4	14	20.9
Do not know	50	14.3	5	8.9	19	17.4	16	13.7	10	14.9
Not applicable	11	3.2	2	3.6	1	0.9	3	2.6	5	7.5
Total	349	100.0	56	100.0	109	100.0	117	100.0	67	100.0

Q10C: What is your opinion in relation to the following statements about the discussions concerning the management of the area between officials and stakeholders? - The local process generated support for the implemented measures

	All countries		England		France		Netherlands		Flanders	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Strongly agree	24	6.9	5	8.9	12	11.0	4	3.4	0	0
Agree	145	41.5	20	35.7	51	46.8	44	37.6	13	19.4
Neutral	78	22.3	14	25	20	18.3	30	25.6	10	14.9

	All countries		England		France		Netherlands		Flanders	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Disagree	47	13.5	3	5.4	7	6.4	26	22.2	15	22.4
Strongly disagree	19	5.4	3	5.4	0	0.0	6	5.1	21	31.3
Do not know	31	8.9	10	17.9	19	17.4	5	4.3	5	7.5
Not applicable	5	1.4	1	1.8	0	0.0	2	1.7	3	4.5
Total	349	100.0	56	100	109	100.0	117	100	67	100

Q10D: What is your opinion in relation to the following statements about the discussions concerning the management of the area between officials and stakeholders? - The local process increased cooperation between the various stakeholders

	All countries		England		France		Netherlands		Flanders	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Strongly agree	24	6.9	7	12.5	14	12.8	1	0.9	2	3
Agree	145	41.5	27	48.2	53	48.6	49	41.9	16	23.9
Neutral	78	22.3	8	14.3	19	17.4	38	32.5	13	19.4
Disagree	47	13.5	6	10.7	6	5.5	19	16.2	16	23.9
Strongly disagree	19	5.4	2	3.6	2	1.8	2	1.7	13	19.4
Do not know	31	8.9	5	8.9	15	13.8	7	6	4	6
Not applicable	5	1.4	1	1.8	0	0	1	0.9	3	4.5
Total	349	100	56	100	109	100.0	117	100	67	100

Q10E: What is your opinion in relation to the following statements about the discussions concerning the management of the area between officials and stakeholders? - The local process increased the number of conflicts

	All countries		England		France		Netherlands		Flanders	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Strongly agree	14	4	2	3.6	3	3	1	0.9	8	11.9
Agree	57	16.3	8	14.3	10	9	20	17.1	19	28.4
Neutral	88	25.2	14	25	28	26	33	28.2	13	19.4
Disagree	130	37.2	18	32.1	41	38	53	45.3	18	26.9
Strongly disagree	26	7.4	4	7.1	15	14	5	4.3	2	3
Do not know	29	8.3	10	17.9	11	10	4	3.4	4	6
Not applicable	5	1.4	0	0	1	1	1	0.9	3	4.5
Total	349	100	56	100	109	100	117	100	67	100

Q10 F What is your opinion in relation to the following statements about the discussions concerning the management of the area between officials and stakeholders? - The local process increased the number of citizen initiatives regarding the management of the area

	All countries		England		France		Netherlands		Flanders	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Strongly agree	7	2	2	3.6	5	5	0	.0	0	0
Agree	59	16.9	14	25	23	21	15	12.8	7	10.4
Neutral	87	24.9	16	28.6	27	25	28	23.9	16	23.9
Disagree	104	29.8	7	12.5	31	28	47	40.2	19	28.4
Strongly disagree	31	8.9	2	3.6	4	4	11	9.4	14	20.9
Do not know	50	14.3	13	23.2	17	16	13	11.1	7	10.4
Not applicable	11	3.2	2	3.6	2	2	3	2.6	4	6
Total	349	100	56	100	109	100	117	100.0	67	100

Q10 G: What is your opinion in relation to the following statements about the discussions concerning the management of the area between officials and stakeholders? - The local process increased awareness of the European importance of this site amongst the stakeholders

	All countries		England		France		Netherlands		Flanders	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Strongly agree	33	10	9	16.1	8	7.3	9	7.7	7	10.4
Agree	128	37	28	50	41	37.6	40	34.2	19	28.4
Neutral	73	21	11	19.6	27	24.8	26	22.2	9	13.4
Disagree	66	19	4	7.1	17	15.6	26	22.2	19	28.4
Strongly disagree	18	5	1	1.8	3	2.8	9	7.7	5	7.5
Do not know	28	8	3	5.4	13	11.9	7	6	5	7.5
Not applicable	3	0.9	0	0	0	0	0	0	3	4.5
Total	349	100	56	100	109	100	117	100	67	100

Q11: Did the number of measures implemented for the species or habitats for which the site is designated change following the start of the discussions about the management?

	All countries		England		France		Netherlands		Flanders	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
Sharp increase	79	23.0	7	12.7	19	17.6	8	6.3	12	18.2
Slight increase	140	40.7	31	56.4	41	38	53	42.1	24	36.4
No change	70	20.3	8	14.5	27	25	20	15.9	20	30.3
Slight decrease	6	1.7	0	0	1	0.9	31	24.6	1	1.5
Sharp decrease	4	1.2	0	0	2	1.9	9	7.1	0	0
Do not know	45	13.1	9	16.4	18	16.7	5	4	9	13.6
Total	344	100.0	55	100	108	100	126	100	66	100

Q12: Do you think that the measures implemented in the area for the species and habitats are sufficient to ensure a good conservation status of the species?

	All countries		England		France		Netherlands		Flanders	
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.
More than sufficient	33	8.4	15	17	7	5.9	8	6.3	15	17
Sufficient	140	35.4	14	15.9	47	39.8	53	42.1	14	15.9
Neutral	61	15.4	12	13.6	21	17.8	20	15.9	12	13.6
Insufficient	99	25.1	22	25	27	22.9	31	24.6	22	25
Very insufficient	26	6.6	11	12.5	5	4.2	9	7.1	11	12.5
I do not know	36	9.1	14	15.9	11	9.3	5	4.0	14	15.9
Total	395	100	88	100	118	100	126	100.0	88	100

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105	Boone, J.A. & M.A. Dolman (red.) (2010). *Duurzame Landbouw in Beeld 2010; Resultaten van de Nederlandse land- en tuinbouw op het gebied van People, Planet en Profit*
106	Borgstein, M.H. A.M.E. Groot, E.J. Bos, A.L. Gerritsen, P. van der Wielen & J.W.H. van der Kolk (2010). *Kwalitatieve monitor Systeeminnovaties verduurzaming landbouw; Percepties over voortgang, knelpunten en handelingsopties voor functionele agrobiodiversiteit, gesloten voer-mest kringlopen en integraal duurzame stallen*
107	Bos, J.F.F.P., H. Sierdsema, H. Schekkerman & C.W.M. van Scharenburg (2010). *Een Veldleeuwerik zingt niet voor niets! Schatting van kosten van maatregelen voor akkervogels in de context van een veranderend Gemeenschappelijk Landbouwbeleid*
108	Wamelink, G.W.W., W. Akkermans, D.J. Brus, G.B.M. Heuvelink, J.P. Mol-Dijkstra & E.P.A.G. Schouwenberg (2011). *Uncertainty analysis of SMART2-SUMO2-MOVE4, the Nature Planner soil and vegetation model chain*
109	Boer, T.A. & M. de Groot (2010). *Belevingswaardenmonitor Nota Ruimte 2009. Eerste herhalingsmeting landschap en groen in en om de stad*
110	Reijnen, M.J.S.M., A. van Hinsberg, M.L.P. van Esbroek, B. de Knegt, R. Pouwels, S. van Tol & J. Wiertz (2010). *Natuurwaarde 2.0 land. Graadmeter natuurkwaliteit landecosystemen voor nationale beleidsdoelen*
111	Melman, T.C.P. & C.M. van der Heide (2011). *Ecosysteemdiensten in Nederland; Verkenning betekenis en perspectieven van ecosysteem-diensten. Achtergrondrapport bij NVK 2011*
112	Hoogeveen, M.W. & H.H. Luesink (2010). *Synthese monitoring mestmarkt 2009*
113	Verdonschot, R.C.M. & P.F.M. Verdonschot (2010). *Methodiek waardering aquatische natuurkwaliteit; ontwikkeling van graadmeters voor sloten en beken*
114	Spruijt, J., P.M. Spoorenberg, J.A.J.M. Rovers, J.J. Slabbekoorn, S.A.M. de Kool & M.E.T. Vlaswinkel (2010). *Mogelijkheden om milieueffectiviteit en kosten van gewasbescherming te optimaliseren*
115	Heuvelink, G.B.M., R. Kruijne & C.J.M. Musters (2011). *Geostatistische opschaling van concentraties van gewasbeschermingsmiddelen in het Nederlandse oppervlaktewater*
116	Koeijer, T.J. de, M.W. Hoogeveen & H.H. Luesink (2011). *Synthese monitoring mestmarkt 2006-2010*
117	Groot, M. de, I.E. Salverda, R.I. van Dam & J.L.M. Donders (2012). *Drijfveren, sociaal kapitaal en strategie van collectieve burgeracties tegen grote landschappelijke ingrepen*
118	Fey, F.E., N.M.J.A. Dankers, A. Meijboom, P.W. van Leeuwen, W.E. Lewis, J. Cuperus, B.E. van der Weide, L. de Vos, M.L. de Jong, E.M. Dijkman & J.S.M. Cremer (2012). *Ecologische ontwikkeling in een voor menselijke activiteiten gesloten gebied in de Nederlandse Waddenzee: Tussentijdse analyse van de ontwikkeling in het gesloten gebied in vergelijking tot niet-gesloten gebieden, vijf jaar na sluiting*
119	Koeijer, T.J. de, H.H. Luesink & C.H.G. Daatselaar (2012). *Synthese monitoring mestmarkt 2006-2011*
120	Velthof, G.L., W. Bussink, W. van Dijk, P. Groenen-dijk, J.F.M. Huijsmans, W.A.J. van Pul, J.J. Schröder, Th.V. Vellinga en O. Oenema (2013). *Protocol gebruiksvoorschriften dierlijke mest, versie 1.0.*
121	Bakker, E. de, H. Dagevos, E. van Mil, P. van der Wielen, I. Terluin & A. van den Ham (2013). *Energieke zoektochten naar verduurzaming in landbouw en voedsel; Paradigma's en praktijken*
122	Dijkema, K.S., W.E. van Duin, E.M. Dijkman, A. Nicolai, H. Jongerius, H. Keegstra, H.J. Venema & J.J. Jongsma (2013). *Friese en Groninger kwelderwerken: Monitoring en beheer 1960-2010*
123	Silvis, H.J. and C.M. van der Heide (2013). *Economic viewpoints on ecosystem services*
124	Ottburg, F.G.W.A. & C.A.M. van Swaay (2014). *Gunstige referentiewaarden voor populatieomvang en verspreidingsgebied van soorten van bijlage II, IV en V van de Habitatrichtlijn in Nederland*
125	Bijlsma, R.J., J.A.M. Janssen, E.J. Weeda & J.H.J. Schaminée (2014). *Gunstige referentiewaarden voor oppervlakte en verspreidingsgebied van Natura 2000-habitattypen in Nederland*
126	Boer de, T.A., A.T. de Blaeij, B.H.M. Elands, H.C.M. de Bakker, C.S.A. van Koppen en A.E. Buijs (2014). *Maatschappelijk draagvlak voor natuur en natuurbeleid in 2013*
127	Mattijssen, T.J.M., A.E. Buijs, B.H.M. Elands & R.I. van Dam (2015). *De betekenis van groene burgerinitiatieven; analyse van kenmerken en effecten van 264 initiatieven in Nederland*
128	I.M. Bouwma, J.L.M. Donders, D.A. Kamphorst, J.Y Frissel, R.M.A. Wegman, H.A.M. Meeuwsen & L.M. Jones-Walters (2016). *Stakeholder perceptions in relation to changes in the management of Natura 2000 sites and the causes and consequences of change. A survey in England, Flanders, France and the Netherlands*

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