



Habitat banking

Instrument or alibi for
nature conservation and its societalization?

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Photograph on cover: Robert Smithson. Seventh Mirror Displacement. 1969. Photo print, 61 x 61 cm.
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“If you visit the sites (a doubtful probability) you find nothing but memory traces, for the mirror displacements were dismantled right after they were photographed. The mirrors are somewhere in New York. The reflected light has been erased” (Smithson, 1969).

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Preface

When I started working on this thesis, I never thought it would become anything close to the thesis you are about to read. What started as an interest in the concept of *ecosystem services* would turn out to be the start of a theoretical exercise that pulled me into theories of environmental economics, valuation studies, history of nature conservation, law on nature compensation, critical discourse analysis, environmental ethics, governance theory... Sometimes, it felt like I was at the mercy of the question I had posed, and I learned how hard it can be to answer that question. Therefore, I am all the more grateful that there is a complete thesis in front of you. Although this might give the impression that I did not enjoy writing it, this is not true! I enjoyed it very much. It has been a great learning experience, and I am very glad it evolved the way it did. My supervisor, Pieter Leroy, called it an ‘organic writing process’ and I think that is the right way to put it.

I would like to thank Pieter for his critical feedback on my writings, suggestions and pep talk. I also would like to thank Martijn van der Heide, my internship director at Wageningen Economic Research in The Hague, for granting me a working place and for all the fruitful discussions. Thanks to all the respondents who have made time for the interviews and with that contributed enormously to this research. Finally, thanks to my friends who discussed with me on my thesis, gave suggestions and feedback (special thanks to Timo Houtekamer, Lotte Jacobs, Joris Wijnakker and Luuk Winkelmolen who have read my work and gave comments).

I hope you enjoy reading this thesis just as much as I enjoyed writing it.

Ramon Wensink

Nijmegen, January 2019.

Summary

This research focuses on different definitions of nature and the ideal society, and therefore the dominant discourse on sustainable development that so extensively articulates our current relation to nature forms a central element of this research. In the context of this dominant discourse on sustainable development, *habitat banking* has been developed. Habitat banking is a market-based instrument for nature conservation and is based on the idea that biodiversity losses in one place can be compensated by creating equal gains elsewhere. Biodiversity losses caused by development projects can be regenerated off-site by the purchase of *nature credits*. It offers an approach that links conservation with industry, and might provide improved ecological outcomes while not halting development (Bull et al., 2013). The conviction that it is hard to “(...) allow room for the necessary economic growth on the one hand and to keep or make our living environment robust on the other”, motivated different organizations on the Veluwe, a well-known and generally appreciated nature area in the Netherlands, to work together in the project *Testing ground Veluwe*, financially supported by the Dutch Ministry of Economic Affairs, in order to explore how “(...) habitat banking can be an instrument to reconcile economic growth with conservation, and where possible, restoration of biodiversity” (Vitens et al., 2016, p. 2). This case is central to this thesis.

At the same time the Dutch government pleads for a *societalization* of nature. Societalization is a term that is often used to address redistributions of responsibilities between government and society. It captures a discourse in which the participation of citizens, civil society organizations and market participants in policy is advocated (Leroy & Gersie, 2004). The societalization of nature policy results in a mode of policy making in which the policy itself is intimately intertwined with stakeholders from civil society and business. Central to this research is the question how habitat banking relates to the Dutch governmental ambition to societalize nature policy.

This question is answered by outlining and combining two discourses. The first concerns a substantial discourse, which entails the dominant assumptions on nature, its role in society and its conservation. The second concerns a governance discourse that contains dominant assumptions on the role of the state, the market and civil society in nature conservation with habitat banking.

From the combination of these two discourses, there is first concluded that ‘societalization’ is a very misleading concept. Although it links close to ‘social’, this study makes clear that something can be called societal if it can manifest itself as able to follow the dominant path of economic growth – a development that actually requires an a-socialization of the object. Despite the fact that there can be found reasons for the commodification of nature that appear attractive in the first place (raising financial resources for nature conservation and development, creation of nature where it is ecologically relevant, creation of a language that is familiar to policy makers and market actors), the fact that discourse structures how reality is perceived and determines moral values indicates the risk that the instrumental and economically oriented language that habitat banking requires and reproduces,

will create a nature that is stripped of personal commitments, narratives and constructs of connectedness with nature. This market-based approach to nature conservation might increase political activity by rendering the conservation problem more governable, but the value of this activity is nihil if it reinforces the risk of silencing more productive discourses and the institutionalization of a discourse that is very likely to be counterproductive for the conservation of nature on the long term, since moral considerations on biodiversity loss and reflections on a harmful handling of nature are crowded out by the logic that habitat banking provokes and the procedures it requires. It reframes care for nature as a mere social precondition for entrepreneurship and inverts the idea that business should benefit the welfare of society to one wherein societal welfare promotes business. It also fuels and institutionalizes the twisted logic that economic growth and project developments that harm nature are responsible for the continued existence of the habitat bank and next to production, consumption too is positively linked to conservation, assigning the consumption of credits as a ready-made product a central role in conservation.

This also implies that habitat banking is not necessarily democratic. It is not about finding majorities and a decent handling of the interests of the weak, but it is about activity (Van der Steen et al., 2013). Habitat banking circumvents the traditional mechanisms of political negotiation to some extent. This has been noticeable in statements such as “[t]he nature credit metric is not up for discussion”², in the general idea that habitat banking is not something for the public and in the obscuring of their knowledge.

Since there is concluded that people are willing to protect nature because 1) nature is meaningful in the lives of people and communities; 2) nature has its own right to exist and 3) nature brings with it many socio-economic benefits (Chan et al., 2016; Admiraal et al., 2017; de Groot et al., 2016), sidelining 1) and 2) in favor of 3) obscures a wide range of productive conceptualizations of nature, which will bring about material, tangible effects, by reshaping opportunities and freedoms of actors and the objects of which they speak. This reinforces and further institutionalizes a dominance of economic and scientific discourses in nature conservation over public discourses based on socio-cultural values of nature, and relational values with nature. This articulation of economic and scientific forms of knowledge upon other forms of knowledge reproduces power inequalities. The objectification of nature that this approach to nature conservation requires “both generates and reaffirms the positing of nature as an external reality vis-à-vis society” (Smith, 2007, p. 22). This means that habitat banking is not the means to place nature at the heart of society, but takes nature out of its heart.

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1. Introduction

The Dutch government endeavors to “(...) place nature at the heart of society” (Ministry of Economic Affairs, 2014, p. 7). To me, this ambition is reminiscent of active communities in collective gardens, of membership of nature conservation organizations considered normal, of environmental awareness and of nature areas easily accessible to all. However, a closer look at the Government Vision on Nature (Ministry of Economic Affairs, 2014) shows that ‘nature at the heart of society’ can mean as much as “(...) an economy into which nature is sustainably woven” (p. 6); “(...) that everyone should have the same possibilities to participate in the management of nature” (p. 41) or “(...) a matter of well-understood self-interest, not of an obligation imposed by governments” (p. 18).

This raises a lot of questions on that ambition that sounded so attractive a moment ago. Should we weave nature further into economy? Should everyone have the possibility to participate in nature management? Should the government withdraw from the management of nature? The goal of this research is not to find the only right answers to these questions for the simple reason that these questions do not have single unambiguous answers. What it does aim at, is providing a critical analysis of possible answers to these questions and their implications for nature conservation, as different definitions of nature and the ideal society lead to different approaches to nature conservation.

Given that this research focuses on different definitions of nature and the ideal society, the dominant discourse on sustainable development that so extensively articulates our current relation to nature forms a central element of this research. In the context of this dominant discourse on sustainable development, *habitat banking* has been developed. Habitat banking is a market-based instrument for nature conservation and is based on the idea that biodiversity losses in one place can be compensated by creating equal gains elsewhere. Biodiversity losses caused by development projects can be regenerated off-site by the purchase of *nature credits*. Providers of these credits create offset projects to generate biodiversity values which are captured in nature credits and saved on a *biodiversity bank*. Project developers can then buy the number of credits needed to compensate for the losses caused by the initiated projects. Often, the goal of these transactions is a *no net loss* of biodiversity. This offers an approach that links conservation with industry, and might provide improved ecological outcomes while not halting development (Bull et al., 2013). The conviction that it is hard to “(...) allow room for the necessary economic growth on the one hand and to keep or make our living environment robust on the other”, motivated different organizations on the Veluwe, a well-known and generally appreciated nature area in the Netherlands, to explore how “(...) habitat banking can be an instrument to reconcile economic growth with conservation, and where possible, restoration of biodiversity” (Vitens et al., 2016, p. 2). In this project *Testing ground Veluwe*, financially supported by the Dutch Ministry of Economic Affairs, companies that cause biodiversity losses on the Veluwe work together with partners that offer biodiversity improvements, coordinated and accompanied by other organizations that strive for, or are at least interested in the creation of a habitat

bank in the Netherlands. This case is central to this research.

However, measuring the value of nature in nature credits asks for an extreme simplification of the complexity of ecosystems (Vatn, 2000) and does not take the cultural or historical importance of place and the social relations between communities and particular ecosystems or places into account, meaning that engagements with place might be lost and offsets may create outcomes that are socially and spatially uneven (Apostolopoulou & Adams, 2017). Decisions on biodiversity offsetting are thus legitimized by a claim of a no net loss that is only valid from a very selective perspective that does not take into account the values of individuals and communities that are affected by the offset (Sullivan, 2013). It shows a dominance of scientific knowledge over other forms of knowledge which is often justified by the argument that the public lacks knowledge on biodiversity issues, and that this forms a barrier to effective participation in decision making (Fischer & Young, 2007; Buijs, 2009). However, it is increasingly acknowledged that the participation of the public in environmental decision making is essential for the success of conservation initiatives (Fischer & Young, 2007; Chan et al., 2016). In its latest Government Vision on Nature (Ministry of Economic Affairs, 2014), the Dutch government acknowledges this too by pleading for active citizen participation and placing “creative and responsible people, and by extension the energetic civil society, at the heart of its nature policy” (p. 7). This results in a nature policy field that on the one hand demands further abstraction of nature to reach an “epistemological and political reconciliation of economy and ecology” (Escobar, 1996, p. 330), while on the other hand the “government prefers to take people’s perception of nature as a point of departure” (Ministry of Economic Affairs, 2014, p. 15). In practice, these changing discourses on nature and its conservation ask for a redistribution of responsibilities between the government, civil society and the market. The transfer of former state responsibilities to civil society and the market that the Dutch government currently aims for in nature policy is often referred to as *societalization*.

This thesis operates in the center of this policy field and focuses on how different forms of knowledge interact in discourses on nature conservation; it questions its dominant concepts, formations of objects and theoretical choices, therein paying specific attention to the ideological function of science, with the aim to reveal (and perhaps modify) it. The starting point is that science is one discursive practice among many others (Foucault, 1972, p. 186).

Central to this thesis is the following question:

How does habitat banking relate to the Dutch governmental ambition to societalize nature policy?

1.1. Scientific and societal relevance

By economically valuing nature, habitat banking aims at reducing complex management decisions on nature conservation to simple economic accounting. Thereby it denies the political nature of these decisions (Matulis, 2014). Apostolopoulou and Adams (2017) argue that by approaching biodiversity offsetting as a technical issue, the problem of biodiversity loss due to development is depoliticized. This research aims to point out the often euphemized political nature of habitat banking.

This is important for various reasons. In science, the commodification of nature and the rise of new modes of environmental governance (due to the societalization of nature policy) are considered “two of the most important emerging themes in environmental management” (Liverman, 2004, p. 734). These themes are heavily debated in science and policy and habitat banking is considered one of the most controversial instruments in current environmental policy (Schoukens, 2015). Many authors argue that there is a need to identify and address the pitfalls of market-based nature conservation instruments like habitat banking, and to address the question why economic valuation is considered so useful for nature conservation (Nelson, 2001; Liverman, 2004; O’Neill, 2007). Bugter, Vader and Van den Hoven (2017) plead for research that pays attention to the autonomous development of habitat banks, as does Robertson (2008) with his request for site- and interview-based research on habitat banking that addresses not only ecological questions (as most research in that field does) but also social and economic questions. Such research is deemed to pay attention to who profits from habitat banking and how value creation works in each case (Apostolopoulou, Greco & Adams, 2018).

While the prevailing sustainable development discourse, dominated by economic language, is being increasingly institutionalized, there are critical voices that argue for an engagement with values of nature that are not only economic. Escobar (1996) warns that systems like habitat banking will harm “respect and the common good” while propagating “certain views of nature and society in terms of production and efficiency” (p. 332). Bryan et al. (2010) have noted that socio-cultural values are rarely considered in spatial planning for conservation and environmental management, and ignoring these may hinder the social change that is often aimed for by environmental policies (Menzel & Teng, 2010). Engagement with these values might create opportunities for new and potentially more productive policy approaches to nature conservation (Chan et al., 2016).

Subsequently, a growing body of literature has raised questions on how the utilitarian framing of nature and related market strategies can change the way people relate to nature and how this might be counterproductive for the conservation of nature on the long term (Robertson, 2004; McCauley, 2006; Soma, 2006; Kosoy & Corbera, 2010, Gómez-Baggethun et al. 2010). Given the fact that management practices shape people’s views on nature (Buijs, 2009, p. 39), it is important to address the possible consequences of habitat banking for nature-society relations.

This research intends to meet the needs for research that are outlined above by providing a critical discourse analysis of habitat banking in the context of Dutch nature conservation policy. This

is however not only relevant in the field of science, but clearly is of societal relevance too. If the Dutch government aims at taking people's perception of nature as a point of departure for their nature policy and consider this crucial, it is important to analyze how habitat banking affects this ambition, given that habitat banking is considered as an actual policy option for nature conservation. Uncritical commitment to habitat banking might then lead to unintended outcomes. This critical engagement is also important because habitat banking, if turned into practice, is likely to influence the natural environment of human beings, their relation to it, given that nature management practices shape people's views on nature (Buijs, 2009, p. 39) and their political power in conservation as responsibilities between the government, civil society and the market are redistributed under habitat banking. Apostolopoulou and Adams (2017) warn that habitat banking may lead to a reproduction of nature that is external to society by ignoring links between people and nature, mainly by justifying this reproduction on the basis of economic interests, rather than on the basis of concerns over social and spatial justice.

It needs to be added that this listing of reasons why this research is relevant is not exhaustive – especially chapter 2 on critical discourse analysis adds to it – yet for the sake of clarity and because of the need to theoretically elaborate on certain concepts before they can be dealt with in this paragraph, only a selective overview of a number of reasons for this research being relevant is given. I can only encourage you to read further for the relevance to become clearer as it will evolve with the story that is being told.

1.2. Outline of the thesis

The following chapter discusses the concept of 'discourse' and its related approach of critical discourse analysis. In this chapter, important concepts in critical discourse analysis and its related mode of thought that predominate over this thesis are introduced. Chapter 3 places nature conservation in a historical perspective, with a focus on the Netherlands, and will clarify how habitat banking has emerged. Chapter 4 builds further on this and focusses on the concept of societalization that has become increasingly important throughout (conservation) history in the Netherlands. This chapter too includes an analysis of the process of commodification of nature, since marketization is an inherent part of societalization. Chapter 5 then critically discusses habitat banking and the legal structure in which it operates. It is followed by an outline of the general research strategy, the methods of data collection, a discussion on the selected case for this research and only some minor additions to the methods of data analysis, since critical discourse analysis has already been covered in chapter 2. Chapter 7 focuses on the empirical data that was collected during my fieldwork and consists of three parts. Based on my findings, the first section outlines a substantial discourse, which entails the dominant assumptions on nature, its role in society and its conservation. The second section outlines a governance discourse and contains dominant assumptions on the role of the state, the market and civil

society in nature conservation with habitat banking. The third section compares the two outlined discourses. It focuses on how the social realities that have been outlined in the two discourses, based on certain representations as social facts, relate to or conflict with each other. Finally, chapter 8 forms the conclusion of this research.

2. Constructed nature

This thesis approaches the idea of a *constructed nature* in two ways. First, it pays attention to the actual, physical construction of nature that is required in habitat banking to create biodiversity, the value of which then can be sold in the form of *nature credits*. Second, it builds on the idea that environmental policy problems – although concerning ‘natural’ objects – are socially constructed. The fact that an essential part of environmental policy is the struggle about concepts, knowledge and meaning (Feindt & Oels, 2005) bears testimony to this. Critical discourse analysis offers the perfect methodological approach to critically engage with these concepts, the knowledge involved and the meaning attached to them in order to find out how certain practices produce ‘nature’.

‘Discourse’ was recently defined by Longhofer and Winchester (2016) as “an institutionalized way of speaking or writing about reality that defines what can be intelligibly thought and said about the world and what cannot” (p. 528). According to Foucault, not only speaking and writing are part of discourse, but so are other forms of communication and representation. Foucault (1972) does not draw a line between objects and discourses *on* objects. Therefore, as an example, buildings can be part of discourse too, meaning that there are not merely buildings as objects and architectural theories *about* buildings (Hirst, 1993).

If discourse structures how reality is perceived and determines moral values, knowledge about nature is historically and socially situated, thereby also implying that implicit value judgments and societal priorities are part of claims in environmental policy on objective ‘necessities’ or ‘natural’ limits (Feindt & Oels, 2005). Problems in environmental policy are thus always the result of social constructions. By critically analyzing these claims on certain objectivities and demonstrating how they are historically and socially situated, the idea of an objective truth is invalidated as there is not one predominant interpretation of an environmental problem, but multiple contested ones. Acknowledging this and engaging with it again opens up space for other conceptualizations of nature and the democratization of its discursive production, because nature

does not pre-exist itself, held back by some obstacle at the first edges of light. It exists under the positive conditions of a complex group of relations [which are] established between institutions, economic and social processes, behavioral patterns, systems of norms, techniques, types of classification, modes of characterization; and these relations are not present in the object (Foucault, 1972, p. 45).

And exactly because discursive practices “systematically form the objects of which they speak” (Foucault, 1972, p. 49) attention for marginalized discourses is crucial for a democratized production of nature. Such marginalized discourses might also offer alternative policy options (Feindt & Oels, 2005, p. 169).

Feindt & Oels (2005) came up with a number of strengths of discourse analysis in environmental policy making:

- 1) a particular awareness of the role of language in constituting policies, politics and political;
- 2) a skeptical attitude toward claims of a single rationality and objective truth;
- 3) an inclination to regard knowledge as contingent and principally contestable;
- 4) an interest in bias effects of dominant types of language and knowledge;
- 5) a shared understanding that language and knowledge need to be understood as an aspect of power and as exerting power effects;
- 6) an interest in practices (i.e. professional and everyday practices) as constitutive of power relations and knowledge systems;
- 7) a strong emancipatory motive and an interest in democratizing knowledge production and policy making.

One of the main criticisms of critical discourse analysis is that its methods of data collection and text analysis are not explicit (Widdowson, 1996), but the list above gives enough analytical principles on which a good analysis can be built. It gives guidance to the production of insights into the way that discourse (re)produces or resists social and political power relations, and this is the most important in conducting a critical discourse analysis (Fairclough, 2013). It is important to add that power in this context must not be regarded as a mere phenomenon of repression. Power does not only restrict and prohibit, does not only say no, but it also traverses and produces things (Foucault, 1980, p. 119). Power is not a negative instance whose only function is repression, but a productive network, which can induce pleasure, forms of knowledge and produces discourse.

Despite the fact that all kinds of representations or non-verbal acts can be part of discourse, this thesis focuses on the written and the spoken. The idea that discourse shapes and is shaped comes forward in the next section:

(...) to speak [or write] is to do something – something other than to express what one thinks; to translate what one knows, and something other than to play with the structures of language (*langue*); to show that to add a statement to a pre-existing series of statements is to perform a complicated and costly gesture, which involves conditions (and not only a situation, a context and motives), and rules (not the logical and linguistic rules of construction) (Foucault, 1972, p. 209).

This does not imply, however, that this thesis will be an analysis of the markings of textuality; it will also focus on the *materiality* of discursive practices. The idea that this thesis deals with two types of ‘constructed nature’ reflects this focus on textuality and on materiality, and is based on the notion cited earlier in this chapter that discursive practices “systematically form the objects of which they speak” (Foucault, 1972, p. 49).

The discourse analysis is ‘critical’ in the way that it pays extensive attention to the production of societal power relations through discursive practice and how they are reinforced through it. Critical discourse analysis can then help to reveal power structures and to unmask ideologies (Wodak & Meyer, 2009). Of special importance in this thesis is the skeptical attitude towards scientific knowledge (an important part of critical discourse analysis as can be deduced from the list of strengths of discourse analysis above). Throughout the thesis, extensive attention is paid to the ideological functioning of science in the case of nature conservation, because the way in which nature is perceived, defined and appreciated determines to a large extent what kind of nature and how (much of) it is protected (Rientjes, 2002). Foucault (1972) says the following on tackling the ideological function of science:

To tackle the ideological functioning of a science in order to reveal and modify it (...) is to question it as a discursive formation; it is to (...) tackle the system of formation of its objects, its types of enunciation, its concepts its theoretical choices. It is to treat it as one practice among others (p. 186).

Attention will be paid to different images of nature, policy frames (related to the “types of enunciation” that always involve a position from which something is said), the dominance of certain forms of knowledge and to the power relations that are present in the governance of nature. Leff (1986) notes that certain environmental themes (mainly the integration of nature into the law of value) are disciplined, and that this precludes the creation of concepts that might be useful in creating alternative ecological and economic rationalities. He offers critical discourse analysis as a way to address this lack of ‘epistemological vigilance’ (aiming at answering questions such as *what is knowledge; how is it created; what can be known?*) in order to reorient strategies for development and the environment. This relates to the claim of Feindt and Oels (2005) that “discourse analysis opens up new opportunities for the democratization of the processes of naming and producing the ‘environment’” (p. 170). This is needed because discourses contribute to the institutionalization of certain discourses (in policy arenas for example) without a liability to democratic practices.

But if discourse analysis implies a skeptical stance toward the universal claims of science, what does that mean for this research? An important critique of discourse analysis is that it is conceptually circular as my own interpretations of communication and representation are as historically bound as anyone else’s (Stubbs, 1997). But the fact that discourse is everywhere gives me no option for escaping mine. However, this does not imply a definite rejection of this work. Discourse analysis is mainly about disturbing “(...) the tranquility with which [discourses] are accepted” (Foucault, 1972, p. 25). Discourses “(...) are always the result of a construction the rules of which must be known, and the justifications of which must be scrutinized: we must define in what conditions and in view of which analyzes certain of them are legitimate; and we must indicate which of them can never be accepted in any circumstances” (Foucault, 1972, p. 25-26). Throughout this work I will

therefore aim at explicitly underpinning and justifying my claims, in order to prevent to some extent the tranquil acceptance of my discursive practice.

Building on the above, chapter 7 of this thesis outlines two discourses on nature and its conservation. One I have called the *substantial discourse*, which entails the dominant assumptions on nature, its role in society and its conservation. The other is called the *governance discourse* and contains dominant assumptions on the role of the state, the market and civil society in nature conservation with habitat banking. The combination of these two discourses, defined by extensive attention to the production of societal power relations through discursive practice, offers the proper means to answer the question how habitat banking fits into the Dutch governmental ambition to societalize nature policy, exactly because habitat banking evolves in a discursive field wherein nature and concepts related to its conservation are redefined and wherein power relations between the government, civil society and the market are shifting. Chapters 3 to 6 offer the necessary theoretical background for outlining these discourses.

3. From demonic wilderness to nature credits

The way in which nature is perceived, defined and appreciated determines to a large extent what kind of nature and how (much of) it is protected (Rientjes, 2002). This is in line with the statement of Foucault (1972) that discursive practices “systematically form the objects of which they speak” (p. 49). Foucault’s conceptualization of discourse therefore requires historical contextualization, because “to preclude the dimension of history from the critical analysis of discourse is to risk (...) reproducing precisely the kinds of discourses one had hoped to interrogate” (Hook, 2001, p. 37). Given this, discourses on nature thus also determine to a large extent how it has become possible for habitat banking to emerge. Because perceptions, definitions and appreciations of nature vary over place and time, the following section places nature conservation practices in a historical perspective, with a focus on the Netherlands, and will clarify how habitat banking has emerged. This analysis consists of two parts. First, it shortly reflects on how modernization has affected perceptions of nature and nature conservation practices. Then, it analyzes the development of nature conservation in the Netherlands, starting in the nineteenth century, as nature conservation began to bloom around that time; chapter 4 builds further on this analysis.

3.1. Modernization and perceptions of nature

In pre-modern times, nature was often perceived as demonic; full of brute and unpredictable forces of which anyone could become a victim. Evil spirits roamed in the wilderness, and being in the wilderness meant being in danger (Rientjes, 2002). To be a wilderness was to be a waste, and in its presence the emotion one was most likely to feel was bewilderment or terror (Cronon, 1996). Through modernization, of which the development of people’s rational problem solving capacities is an important part, nature changed its face from the place of the brute and unpredictable, to a more structured set of processes that were to be explained and tamed. The view on nature mechanized and a clearer line was drawn between nature and society, where nature was no longer the dominant force. This mechanization of the view on nature also meant that nature was mostly perceived in relation to production processes (Rientjes, 2002).

An Arcadian view on nature came into being in the seventeenth century, which valued nature not only as a means of production, but also as something of emotional and aesthetic value. In this time, gardens and landscaped parks started to appear, showing that nature was not only something to conquer, but also something to care for (Rientjes, 2002). By the end of the nineteenth century, perceptions on the once so threatening wilderness had changed, and the wilderness had become a place to experience spectacular beauty which more and more tourists started to visit (Cronon, 1996).

Societal concern and interest in nature started to grow in the last decades of the 20th century when environmental problems became more apparent and the negative consequences of modernization and technological progress started to undermine the metaphor of the ‘fight against

nature', which was no longer seen as crucial, but as a threat to society and human life. Environmental issues slowly became issues of collective concern (Rientjes, 2002).

3.2. Nature conservation in the Netherlands

In the nineteenth century, protection of nature in the Netherlands mainly rested on private initiatives (Klijn, 2011). An urban elite group of artists, scientists and notables tried to save their green living environment, threatened by the industrial revolution, by buying nature areas (Leroy & Gersie, 2004). In general, little care was taken of wild flora and fauna, and if so, care mainly focused on useful animals. For the wellbeing of these animals, the Dutch Society for the Protection of Animals [Dierenbescherming] was founded in 1864 and the Law Useful Animals [Nuttige Dierenwet] accepted in 1880. The Birds Law [Vogelwet] (1912) forced protection of all wild birds, except those that might negatively affect forestry, agri- and horticulture or species that could be kept as pets – the stress on utility is clear in this case.

An important turning point in nature conservation in the Netherlands at the end of the century was the plan to assign the Naardermeer as landfill site for Amsterdam (Klijn, 2011). This gave rise to protests and some of the first forms of organized nature conservation by private individuals. These private organizations funded nature reserves with private money and barely enjoyed any support from the central government (Gorter, 1986). In 1905 the Society for Preservation of Nature Monuments [Vereniging tot Behoud van Natuurmonumenten in Nederland], often referred to as Nature Monuments [Natuurmonumenten] was established. Protests against the extinction of animals sprouted. This bloom of interest in nature and its conservation around 1900 has been called the biological *réveil* (Coesèl, 1993). In the meantime, the number of inhabitants of the Netherlands grew and so did the pressure on open space. Cities expanded, agricultural practices intensified and infrastructure was constructed in high speed.

After the Second World War, the period of reconstruction that followed left little room for nature conservation, and focus lay on building new houses and infrastructure. The 1953 North Sea flood only added insult to injury and initiated a shortening of the coast and other forms of *hard* coastal defense (Klijn, 2011). The Land Consolidation Act [Ruilverkavelingswet] of 1954 led to a major rearrangement of the rural areas, accompanied by the construction of new roads and the intensification agricultural practices, causing manure pollution, desiccation and other processes that negatively affected nature (Schaminée et al., 2013). Open space, green space and silence became increasingly scarce. A renewed interest in nature, caused by these negative developments, came about in the 1960s, accompanied by a growing interest in environmental issues (Coesèl, 1993). New insights in the negative effects of excessive fertilizer use, manure surpluses and chemical pesticides fueled this interest and led to a growing number of critical voices, the so-called *green wave*, which was far bigger than the biological *réveil* in the beginning of the century (Schaminée et al., 2013).

The rise in welfare after the period of reconstruction knew several, sometimes conflicting, characteristics. On the one hand, the improvement of education, an increase in mobility due to private transport and an increase in free time – free Saturdays that could be spent out in nature – gave rise to more awareness on the pressure that has been put on nature in the past decades. People started to discover the fun of spending time in nature more and more, and non-cultivated lands – heath, bog, swamp – where no longer seen as *about to be cultivated*, but carried natural values in itself. On the other hand, that very same increase in welfare had given rise to these problems as a consequence of urbanization, population growth, expansion of infrastructure and mobility and so on (Klijn, 2011).

As the population grew in rapid tempo, space became scarcer, which made spatial planning more important. Spatial planning started to take more and more account of natural areas; while the First Memorandum Spatial Planning [Eerste Nota Ruimtelijke Ordening] of 1960 only concerned the issue of urbanization, the Second (1966) and Third Memorandum (1977) both worked on nature and landscape. At the same time, citizens started to demand their involvement in governmental processes. Societal organizations like Nature Monuments grew in membership number – from 30.000 in 1960 to 250.000 in 1980 – and grew in influence, meaning that decisions on conservation could no longer be taken without the involvement of society. This rise in public interest in nature was accompanied by an increasing interest in recreational purposes, and spatial planning started to take this into account more and more (Rientjes, 2002).

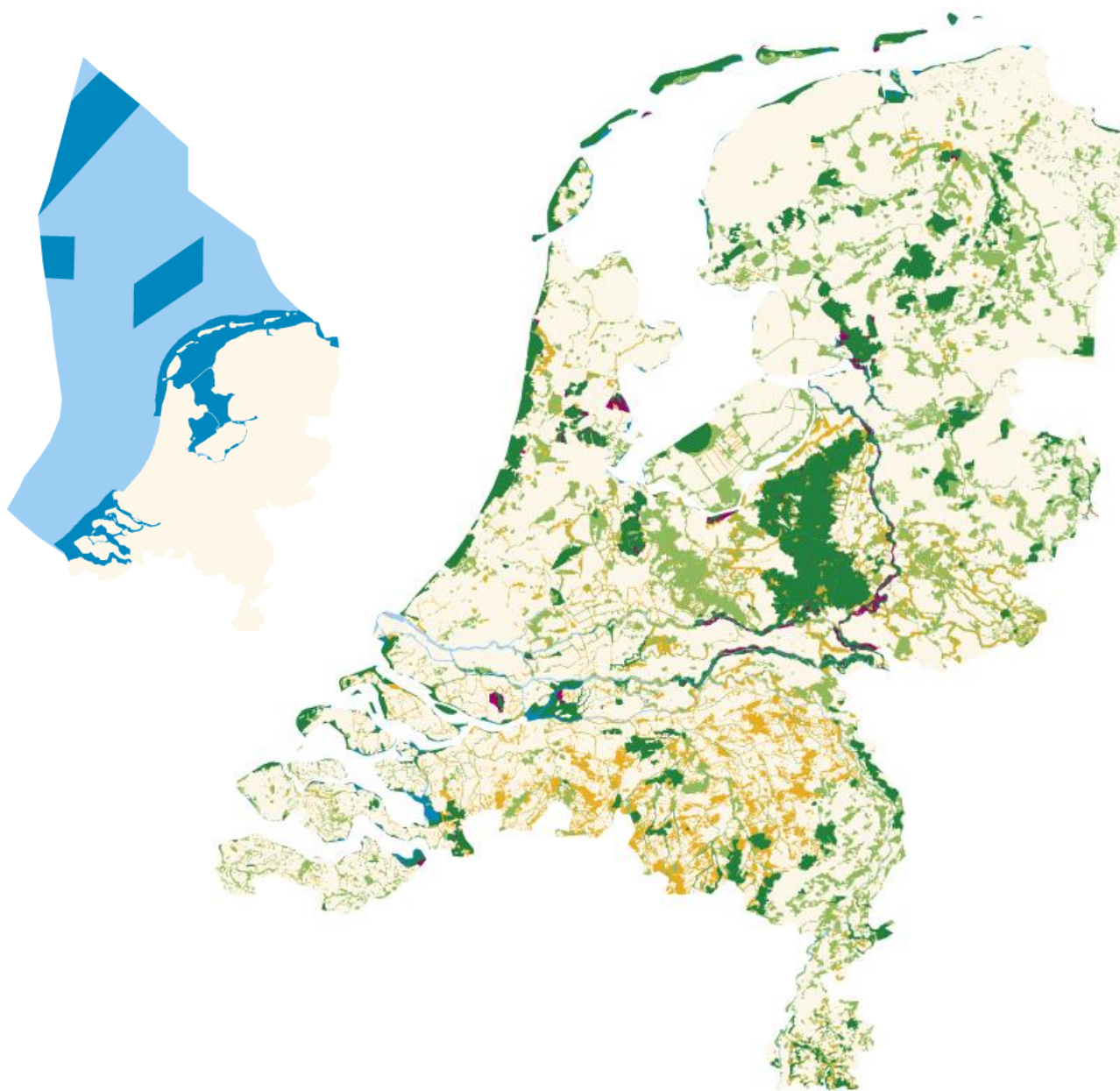
In the 1970s, the awareness of the many values of nature and worries about the loss of them grew enormously. The number of interest groups grew, organizations professionalized, the development of knowledge on nature and landscape experienced rapid growth, as did its integration in management. The nature and environmental movement became a political actor of importance (Klijn, 2011). Growing international attention played a role in this; publications like *Limits to Growth* (1972) and the Brundtland Report (1987) were very influential in this case. The concept of *sustainability* and the dimensions of *people, planet* and *profit* found its way into policy and society (Klijn, 2011; Schaminée et al., 2013). What followed was an overwhelming number of memoranda, multiannual plans and action programs with high levels of ambition. The urgency was clear, but the downside of this was that it was all very complicated and too much to process in such a short time. Citizens and businesses complained about the many rules, fickleness in rulemaking and inconsistencies in policy. The danger of *scientification* (the underpinning of policy motives, problem definitions and solutions with scientific knowledge as much as possible (Leroy & Gersie, 2004)) and a growing distance between politics and society lurked (Klijn, 2011).

Systems ecology had found its way into the policy arena in the meantime, which shifted the focus from small-scale, vegetation oriented approaches to the protection of large, stable ecological systems (Rientjes, 2002; Schaminée et al., 2013). All the small pieces of protected nature were not perceived as real ecosystems by nature conservators, and thus not as real nature. The reclaimed land of Flevoland that had more or less spontaneously developed into a wetland of high ecological value,

the Oostvaardersplassen, showed that real nature could be man-made, which led to the emergence of *nature development* as a possibility in nature conservation. This meant that *protection* was no longer the only objective of nature policy and the *development* of new nature started to play an important role. Nature conservation let go of its defensive strategy and became of an offensive and constructive character. The introduction of the Ecological Main Structure [Ecologische Hoofdstructuur, EHS], a network of nature areas and corridors that link important ecosystems, in 1990, aimed to realize a solid Dutch network of nature, instead of a collection of small pieces of nature, and is the manifestation of the shift to systems ecology and nature development. Many financial and political obstacles disappeared with the introduction of the EHS and support of the EHS became attractive and easy. The creation and maintenance of EHS (currently called Nature Network the Netherlands [Natuurnetwerk Nederland], NNN) is now at the core of conservation policy in the Netherlands (**figure 1**).

Meanwhile, the distance between politics and society had grown, and among the general public the idea grew that nature had become something for animals and plants only – as well as for a handful of bio- and ecologists. Strict regulations that had been set by these scientists for the sake of the conservation of species had a negative effect on societal development according to many, and it was being asked whether it was tolerable to cancel developmental projects for the sake of, for example, a frog or some rare herb. What further damaged faith in science was the fact that some environmental issues turned out to be less apocalyptic than ecologists had predicted. Predicted catastrophes after the Torrey Canyon oil spill in 1967 or that of forest dieback due to acid rain in the 1980s were found to be less severe because of effective technological solutions. This proved for many people that nature was rather resilient (Klijn, 2011). This growing distance made the gain of public support crucial, and the wish to make policies quantitatively and objectively verifiable to increase support for nature conservation started to grow. In practice, this meant that policies started to be based more and more on utilitarian and economic arguments.

Leroy & Gersie (2004) describe the development of nature policy in the Netherlands, seen from a socio-political perspective, as a “series of initiatives where elite groups of scientists, professionals and bureaucrats take this societal problem and policy field away from society and start working on it in a way that leaves the rest of society uninvolved” (p. 26). If we look back at the outlined history of nature conservation in the Netherlands, we have indeed seen that nature conservation has initially been dominated by urban elite groupings. When, fueled by growing (international) attention to the environment, environmental issues became urgent to policy makers too, conservation was soon to be drenched in bureaucratic rulemaking that left ‘the people’ sidelined.



Nature Network the Netherlands (NNN) and Natura 2000

- Land
- Water

Nature Network the Netherlands

- Land
- Water

- Natura 2000 outside NNN
- Ecological Main Structure (2005)

figure 1. Nature Network the Netherlands and Natura 2000 areas in 2017
(Compendium voor de Leefomgeving, 2018).

4. Societalization

In the previous chapter, we have seen that the more elitist views on nature, rooted in systems ecology, that focuses on ecosystems, species and habitats, with a focus on universal, guideline-setting environmental standards – often referred to as “command-and-control planning” (De Roo, 2003) – leave the public rather uninvolved, as it applies strict ecological standards and approaches nature in terms in which the general public does not think about nature. De Roo (2003) notes that

until the early 1990s, the environmental standards enforced by the Dutch government propelled environmental planning in the Netherlands to great heights. Thanks to a prescriptive system of standards, environmental planning evolved into a fully recognized policy field that achieved impressive results and was able to withstand competition from other fields of policy. Indeed, this system of rigid, quantitative standards virtually excluded all interests other than environmental interests (p. xiv).

It is not surprising then, that over time, while the distance between nature conservators and society had slowly grown, critical voices to this approach were raised. The usefulness of hierarchically imposed norms got questioned and the inability to make allowances for often unique local circumstances got firmly criticized (De Roo, 2003; Klijn, 2011). Together with a number of other developments (e.g. budget cuts, about which more later in this section) this resulted in the earlier cited urge to “place nature at the heart of society” (Ministry of Economic Affairs, 2014, p. 7). The Dutch government started to plead for a *societalization* of nature, a term that is often used to address redistributions of responsibilities between government and society. It captures a discourse in which the participation of citizens, civil society organizations and market participants in policy is advocated (Leroy & Gersie, 2004). Societalization of nature policy results in a mode of policy making in which the policy itself is intimately intertwined with stakeholders from civil society and business – this is often called governance or multi-actor governance (Pierre, 2000). The government – in the case of nature policy the provinces – can be leaders in this process of governance, but it is often accompanied by a great trust in bottom-up processes (Klijn, 2011). Rientjes (2002) defines the related emphasis on communication and the acceptance that there exists a plurality of visions on nature characteristics of a late-modern society.

Societalization thus includes *marketization* and an *increasing participation of civil society*; the latter will be referred to as *socialization*. To sum up, societalization refers to the process of marketization (transferring responsibilities to the market) and socialization (transferring responsibilities to civil society). The following section on the conceptual triangle depicting state, market and civil society (**figure 2**) will elaborate on this.

Before continuing, it is important to add that the emergence of societalization in nature policy

is not only a product of critique. The relatively recent budget cuts in nature policy play an important role in this case too. The Cabinet of Rutte I (2010-2012) cut federal expenditures on nature and landscape with circa two thirds – about 400 million euros a year – compared to the Cabinet that preceded it. The central government and the provinces worked together on the issue how to integrate these budget cuts into policy, which resulted in the Administrative Agreement on Nature [Bestuursakkoord Natuur] in 2011. Once the assigned financial means turned out to be insufficient for the realization of European obligations, Cabinet Rutte II (2012-2017) decided to increase the budget with 200 million euros a year, thereby reversing half of the 400 million budget cut (PBL & WUR, 2017). Still, subsidies for nature conservation are declining, and the focus in nature conservation is heavily on costs, benefits and effectiveness of conservation practices. Nature conservation organizations are working on becoming more independent by generating more income on their own, mainly by shifting to a more entrepreneurial kind of nature conservation (Schaminée et al., 2013). This asks for the development of business models and, although there is ample evidence that nature is of great value, there is a great lack of knowledge on measures on cashing these values (Schaminée et al., 2013) and creating functioning business models is still a troublesome exercise (Hoekstra, 2013). Focus often lies on recreational activities, but other examples are trade in timber, the provision of expertise or knowledge, for example in the form of educational activities or project management or the opening of cemeteries in natural areas. The new motto of State Forest Management has become “protect, experience and use” – this might properly capture the current discourse.

Societalization also takes place in a context of decentralization. On the 18th of September, 2013 an agreement on new ambitions and modes of finance for Dutch nature conservation up to 2027 was signed: The Nature Pact [het Natuurpact]. This brought the long periods of negotiations between the central government and the provinces to an end, and gave the provinces full responsibility for policy making and the realization of NNN. The land that the central government has bought for the realization of nature is transferred to the provinces. The provinces are not completely left to their own devices, as they are expected to cooperate intensively with societal organizations, based on the conviction that set national and European conservation targets will not be met without active involvement of non-governmental parties, their knowledge and their financial contributions (Bredenoord et al., 2018). Also, the central government has established the frameworks to operate within and is held accountable for meeting the European obligations on biodiversity (PBL & WUR, 2017).

4.1. Changing responsibilities

Throughout the years, the responsibility for fulfilling public tasks in the Netherlands has been moving between the state, civil society and the market. What we perceive as unambiguous governmental responsibility now might have been a private responsibility decades ago. Relief of the poor for

example, was mostly carried out by religious and private institutions in the Netherlands of the nineteenth century; churches did not perceive it as a right, but as a favor, and argued that it therefore should not be included among state tasks (Kappelhof, 2005). Social security is considered as a state responsibility now, although private initiatives like the food bank might be an addition to it.

The delegation of tasks to the market became more prominent in the 1980s, supported by the rationale that market parties can carry out public tasks efficiently and therefore cheaply (Rob, 2012). Next to this, a strong focus was placed on civil society, be it organized, or as individual citizens. In many policy areas, responsibilities were (voluntarily and involuntarily) transferred from the state to market parties and civil society organizations (Van der Steen et al., 2015); think of telephony, public transport and waste disposal for example (Van Veen, Arts & Leroy, 2004). This ongoing trend is visible in many countries, in many domains; also in nature policy.

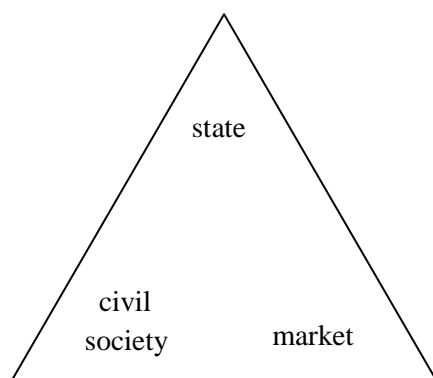


figure 2. Conceptual triangle

If we continue discussing the societalization of nature, it is helpful to use the conceptual triangle that depicts state, market and civil society (**figure 2**). This triangle depicts mutual interdependencies between politics, economies and society and can be used to analyze distributions of e.g. tasks, power and responsibilities. The triangle can be used as a conceptual representation of all kinds of societies and can expose possible tensions. Some will argue, for example, that civil society is the counterweight for disproportional state power, while others will argue

that a strong state is necessary to restrain civil society. Zijderveld (1999) for example, applied this triangle to democracy and notes that the quality of democracy depends on a proper balance between the three elements. In its extremes, power rests fully in one of the corners of the triangle, resulting in a state monopoly of power, a fully commoditized power (hard to imagine, because “(...) private guards and gated communities in California or South Africa offer merely a glimpse of a world where force is a commodity available to the highest bidder” (Daase & Friensendorf, 2010, p. 179)) or a self-help community (Daase & Friensendorf, 2010).

Societalization can be seen as a movement downwards on the triangle; redistributing the responsibilities between the state, civil society and the market, where former state responsibilities are now handed out to civil society and the market (Van der Steen et al., 2013). If we look at the related strategies for this redistribution of power ‘downwards’, it becomes clear that there are a number of strategies for this. These can be roughly divided in top-down and bottom-up strategies, but very often the line between them is not clear as they appear simultaneously and might reinforce or hamper each other. For the sake of clarity it is good to make this division, as it clearly lines out possible modes of action and thought.

Top-down

The state might decide to privatize or liberalize tasks (Van der Steen et al., 2013). This concerns the transference of tasks from the government to the market, meaning that a commercial party takes over a task or service which was formerly carried out by the government. If the privatized service has a strong public character, it remains a governmental responsibility to guide private initiatives, especially if the private party has characteristics of a monopoly. Privatization and liberalization are products of governmental decisions and therefore of the current state of political affairs.

A government might also decide to transfer tasks to civil society, be it to civil organizations or to individual citizens. These groups and individuals take over tasks that were formerly governmental as a consequence of a withdrawal of the government. Again, the government is to decide which tasks ‘go down’ and under which preconditions this happens. This is about active citizens indeed, but it is more of a governmental intervention than an actual societal development.

Bottom-up

From a bottom-up perspective, social entrepreneurship and active citizenship lead to a redistribution of tasks (Van der Steen et al., 2013). The initiative comes from citizens, who thereby enter the governmental terrain. This is not on request or under governmental preconditions. These initiatives might coexist with governmental actions, but might also compete with them.

Active citizenship concerns the entering of active citizens in the public domain, on their own initiative, with their own motives and preconditions. Despite the fact that this takes place in the public domain, and thereby has public value, it endorses what individuals consider good or important, and is by definition also a product of individual interests.

Social entrepreneurship relates to such initiatives, but then with (modest) profitmaking and entrepreneurship as its characteristics. Social enterprises can develop to fully developed companies, with social ambitions and goals at its roots, and might compete with market and state offers. Taken together, this results in **figure 3**.

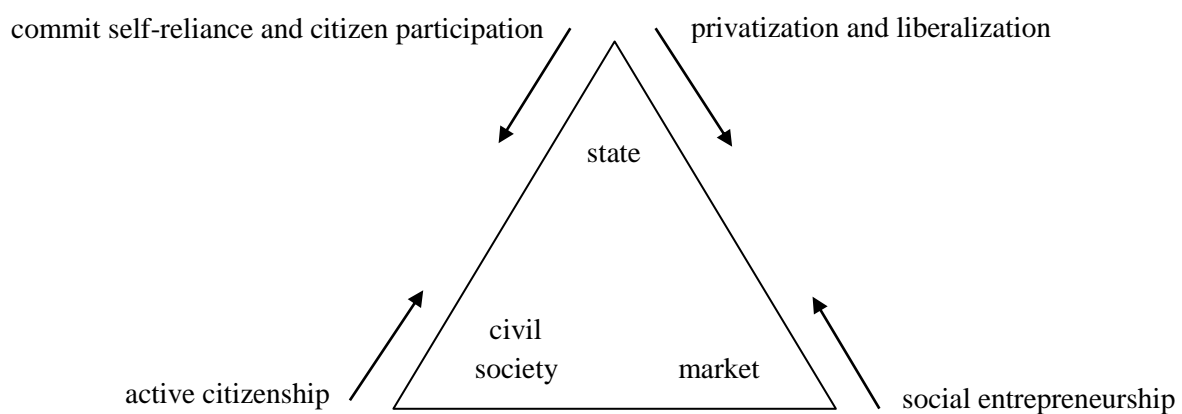


figure 3. Conceptual triangle

capability of taking initiative and realizing goals (Hajer, 2011). On the other hand, the government is willing to cooperate with market parties and civil society to reach goals, or fully ‘gives’ responsibility to them. Societalization is thus a product of ‘pressure’ from up and down. It is thereby also a very political phenomenon, which means that “it is anything but an innocent and by definition ‘friendly’ phenomenon” (Van der Steen et al., 2013, p. 19).

The following sections will pay extensive attention to both socialization and marketization in the nature policy domain. This too includes an extensive analysis of the process of commodification of nature.

4.2. Socialization

Over time, people-oriented perspectives on nature gained increasing attention of policy makers, who stressed the idea that nature is not something non-human, but plays a crucial role in the creation of societal wealth, by offering all kinds of aesthetic, artistic, educational, spiritual and scientific values. These perspectives are partly a product of an increasing number of critics that perceived nature policy as elitist and technocratic as outlined in chapter 3, and full of complicated regulations (PBL & WUR, 2017). The notion that citizens tend to judge nature by its scenic value and by its suitability for relaxing and recreational activities, rather than by ecological values or ecosystem stability, means that compromises have to be made to reach consensus and solutions that involve all. This means that not only the central government or nature organizations can make a contribution to successful nature conservation, but citizens, civil society and businesses as well, and also implies that not only the functions of nature appointed by scientists should be protected or recovered.

With the publication of the second nature policy plan *Nature for People, People for Nature* [Natuur voor Mensen, Mensen voor Natuur] of the Ministry of Agriculture, Nature and Food Quality (LNV, 2000), the inclusion of socio-cultural values of nature in policy making became an important point on the policy agenda for the sake of the preservation of public support and the accommodation of public demands (Buijs, 2009). Socio-cultural values of nature contribute to non-material well-being, emphasizing physical and mental health, education, cultural diversity and identity, freedom and spiritual values (De Groot et al., 2002). In these cases, nature’s values are often not in things, but in the relationship itself. Think of forms of cultural identity, social cohesion or forms of environmental stewardship, for example. Such values that are not in things, but in relationships with it are often referred to as *relational values* (Chan et al., 2016).

In this plan *Nature for People, People for Nature*, the government ‘broadens’ nature policy in three ways (Leroy & Gersie, 2004). First, nature policy should meet the wishes of people, as nature is not only of value intrinsically and ecologically, but also because it improves human welfare (through e.g. aesthetic, artistic, educational, spiritual, scientific benefits). Second, the definition of nature is broadened and covers, for example, urban nature and global biodiversity. Third, the vision on

responsibility for nature is revised; the expectation is expressed that responsibility for nature will be carried by society, where the government will have final responsibility but can call on the public to fulfill their responsibilities too. Leroy and Gersie (2004) rightly point out that this ‘broadening’ is subject to several contradictions and dilemma’s that nature policy entails, as it operates in the area’s between an ambitious and a modest government; between an understanding of nature that is determined by the government and by society; and between a governmental responsibility to offer a public good and a call for private sector efforts. These contradictions and dilemmas will be clearly visible and discussed in the next sections on the role of habitat banking in the socialization of nature policy.

Though there are many examples of private actors and companies that take initiatives in nature management and development, it is still a challenge to make this the norm instead of something in the margins. According to Van der Steen et al. (2016) civil society and businesses should commit to nature conservation not because of governmental demands, but because they themselves consider it important or fun. It is a challenge in particular to involve businesses in nature conservation, as it is hard to find a certain equality of economic and natural interests (Bugter, Vader & Van den Hoven, 2017; Buijs, 2009; Rientjes, 2002). Understanding the views of the public and what experiences they look for in nature is troublesome as well (Buijs, 2009).

4.3. Marketization

With the dominance of economic discourse, it is not a surprise that the wish to make conservation policy quantitatively verifiable and attractive to support has invoked policy making that is underpinned by arguments of economic growth. This section follows this process of *economization*, *commodification* (turning something in an object of trade) and, in the end, the *marketization* of nature that has not only been characteristic for Dutch conservation policy, but is an international process too. By bridging the ‘gap’ between ‘economy’ and ‘ecology’, or an “epistemological and political reconciliation of economy and ecology” as Escobar (1996, p. 330) refers to it, the two needs for 1) profit generation by businesses in a capitalist society and 2) action to address the negative impacts of human activity on the environment are theoretically fulfilled (Smith, 2007). Under the rubric of a ‘green’ economy, ‘eco’ capitalism or ‘sustainable development’ many attempts are made to “[meet] the needs of the present without comprising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987).

The following section pays some more attention to the fields of economy and ecology and how they relate to each other; then I will discuss the field of environmental economics, which will in the end lead the analysis to the process of commodification of nature. Via this route, I will come to habitat banking in the following chapter, which is the institutionalized process of trading nature as a commodity.

4.3.1. Economy and ecology

Economy [‘Oikos nomos’ in Greek] is the science that studies human handling of scarce resources; ecology [‘Oikos logos’ in Greek] is the science that studies the interactions between biotic (‘living’; plants, animals, mold e.g.) and abiotic (‘not living’; soil, water level, temperature e.g.) factors. Traditionally, these fields of science hardly worked together on solving issues on problematic interactions between humans and the earth (Schaminée et al., 2013). However, recent ecologic and economic crises have stressed the need for cooperation between these two fields of science, since they have made clear that shifts in the form and functioning of ecosystems have an effect on economic systems, and the other way around (Scheffer et al., 2002). One of the main questions that is addressed is whether economic growth and environmental care can go together or are two competitive goals (Hofkes, 1996).

The first economists to analyze the relation between economy and ecology were the Physiocrats (Schaminée et al., 2013). This group of scientists came into being around 1760, in France, and had François Quesnay and Anne-Robert-Jacques Turgot as its most important members. They developed the economic theory of *physiocracy*, which did not stress the role of labor in the creation of welfare, like the classic economists, but the role of land. Nature was considered the very basis of production and welfare, as land is essential for primary production. Classic economists generally perceive that what is offered by nature as a free gift (a given), with a low exchange value (Le Masne, 2012). In the nineteenth century, in classic economics, attention shifted from labor and land as the main modes of production, to labor and capital. Ecological dimensions of production became systematically undervalued, and to this day are often perceived as positive externalities (Gómez-Baggethun et al. 2010). However, the characterization of nature either as a production factor or an externality ignores the fact that nature is also an end product in itself: people walk through nature, get inspired by it and they employ it for countless other reasons.

Schaminée et al. (2013) note that the days when only ecologists came with solutions for ecological problems are definitely over. Many of these problems are embedded in larger societal processes and the cooperation between the different disciplines is therefore considered crucial. This is troublesome however, as ecologists are expected to acknowledge that nature has economic potential, while economists, in their turn, have to acknowledge that nature is not a mere production factor or externality, but also an end product in itself and of core importance in a properly functioning and healthy society.

4.3.2. Commodification of nature

In the second half of the twentieth century, when specialized economic sub-disciplines started to address shortcomings in economics to analyze environmental problems, the field of environmental economics started to develop (Gómez-Baggethun et al. 2010). The main goal of environmental

economists is to internalize economic impacts on the environment in decision making. The argument made is that the ecological dimension in decision making is systematically undervalued, because many services that are provided by ecosystems are not adequately quantified in terms that are comparable with tradable commodities, and therefore are conceived as positive externalities (Gómez-Baggethun et al. 2010). In the 1970s, an increasing number of authors started to frame beneficial ecosystem functions as services to highlight the dependency of society on ecosystems. This mode of thought gave rise to the concept of *ecosystem services*. The concept was introduced as a communication tool to raise public interest in biodiversity conservation by using market metaphors, and to make people reflect on the importance of nature (Norgaard, 2010). By demonstrating how the disappearance of biodiversity affects ecosystems that provide services that are critical for human well-being, it intended to provoke reflective thoughts on the relations between humans and nature. See **figure 4** for a general conceptualization of ecosystem services.

The concept of ecosystem services, and related monetary valuation studies that assign a value to these services, gave rise to a lot of scientific and political attention, and over time the concept found its way into the policy arena (Gómez-Baggethun et al. 2010). The concept has attained global institutionalization, visible in, for example, the global initiative *The Economics of Ecosystems and Biodiversity* (TEEB), founded to “make nature’s values visible” (TEEB, 2018), large scale research programs of the European Union and the Natural Capital program of the Netherlands Environmental Assessment Agency (PBL). Nowadays, the concept is applied in directions that significantly diverge from its original purpose (Gómez-Baggethun et al. 2010). The emphasis has shifted from its communicative function to an emphasis on how to cash ecosystem services as commodities on potential markets (Peterson et al., 2010). Kosoy & Corbera (2010) point out that this history shows parallels with a process of commodification wherein

- i) ecological functions are framed as services;
- ii) these services are assigned a single exchange value;
- iii) users and providers of these services are linked in a market exchange.

The utilitarian framing of ecosystem functions as services took place in the 1970s and 1980s. As stated, its goal was mainly pedagogic, and did not yet touch upon economic valuation models. In the 1990s, the number of monetary valuation studies of ecosystem services increased rapidly. Still, its rationale was to show the negative impacts of degradation of ecosystems, pointing out that this could be counterproductive, even with cost-benefit logic. The final step in the commodification process is the linking of demand and supply in real markets through the design of institutions for the exchange of these services (Gómez-Baggethun et al. 2010). Habitat banking is one of those institutions.



figure 4. Conceptualization of ecosystem services (UK National Ecosystem Assessment, 2011).

While environmental economists argue for a proper integration of the environment into economics (by using cost-benefit, for example), market environmentalists argue that commodification is necessary for the protection of the environment. In a market that will assign high prices to scarce resources, individual property owners are better suited to manage ecosystems than governments could, as they argue that people act out of self-interests and individual incentives (Kosoy & Corbera, 2010). It is based on the idea of the *tragedy of the commons*, that shows how individual decisions – often related to self-interest – can cause a collective (environmental) disaster if well-defined, and preferably private property rights are absent (Hardin, 1968). Once property rights are established, owners can decide whether or not they will use the resource, exclude others from using it or sell the rights for others to use. The latter might theoretically be a *win-win* situation for the economy and the environment (Kosoy & Corbera, 2010).

Environmental economics embraces approaches of *weak sustainability*, which assumes that natural and manufactured capital can be substitutes. The approach of *strong sustainability*, advocated by ecological economics for example, does not perceive natural and manufactured capital as substitutable, but rather as complementary (Gómez-Baggethun et al. 2010). Biodiversity must thus be compensated for itself. This implies that it is not acceptable to substitute natural capital with manufactured capital.

5. Habitat banking and compensation law

This chapter will further discuss habitat banking. Before discussing it, however, it is helpful to outline the legal structure of nature compensation. The section on this legal structure will focus the Netherlands. The first section of this chapter discusses this and will be followed by an extensive analysis of habitat banking. In the following chapter, the selected case will then be discussed.

5.1. Legal framework for nature compensation

Nature compensation became obligatory in the Netherlands in 1998. It concerns the last step in the so-called *mitigation hierarchy* (**figure 5**), and requires that, only after attempts to avoid, mitigate and restore damage, compensation becomes an option. This might mean that, before a project developer may apply compensation measures, parts of the project need to be withdrawn, work needs to take place outside the breeding season or less disturbing building techniques need to be used, like drilling instead of pile driving (Schoukens, 2015).

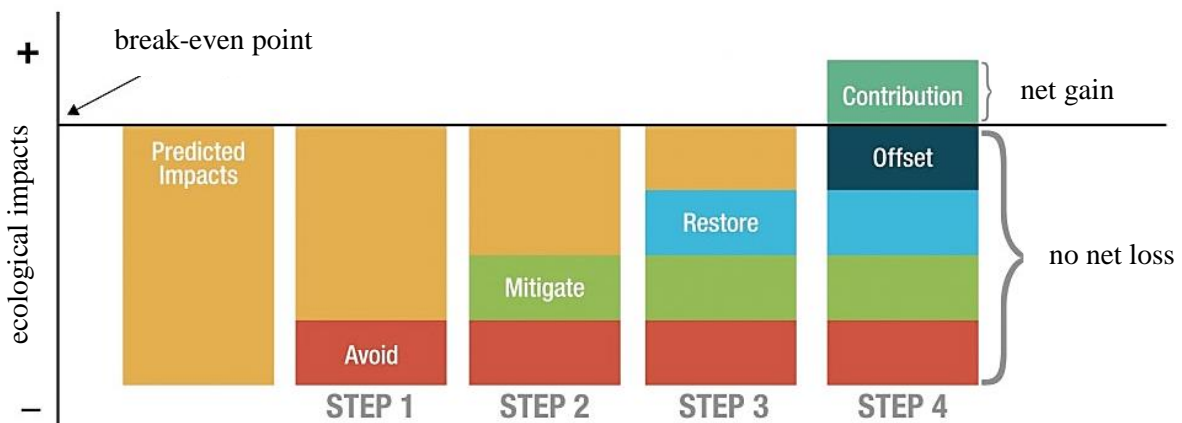


figure 5. Mitigation hierarchy (BBOP, 2009)

Compensation is obligatory in several cases (Gorissen et al., 2017). First, this concerns compensation of damage to nature that is part of the Natura 2000 areas – based on the European Birds and Habitat Directives and legally binding by the Law on Nature Conservation [Wet Natuurbescherming] introduced in 2017, which replaced the Nature Conservation Law, the Forest Law and the Flora and Fauna Law. Second, compensation of damage to NNN is mandatory. Third, if more than 10 hectare or tree planting rows of more than twenty trees are damaged, compensation is obligatory. Finally, this also goes for several species that are included in the Flora and Fauna Law (now integrated in the Law on Nature Conservation). Provinces and municipalities have the right to integrate other areas of importance as well; in case of damage, there should be compensated for these areas as well.

Next to this obligatory compensation, compensation can also be voluntary, for example because of the will to lead a company with *social responsibility*, often referred to as *corporate social*

responsibility or *corporate sustainability*. This is a form of entrepreneurship that aims for economic profit, but with an (equal) eye on social and environmental aspects (popularized under the realm of *people, planet, profit*). This voluntary compensation is much more flexible in its implementation, as there is no legal commitment to any (national level) laws. Rules can be decided upon after mutual consultation and on the basis of what is feasible and desirable (Bugter, Vader & Van den Hoven, 2017).

From a legal perspective, there are three principles of importance in determining this no net loss of biodiversity. First, there is *the principle of equivalence*. It demands new nature to be equal in functions, values and other relevant characteristics in comparison to the damaged area, meaning that nature of the same kind needs to be created in the same amount (Broekmeyer et al., 2011). Second, there is *the proximity principle*. This concerns the location of compensation and demands that the coherence of the ecological network may not be influenced negatively by the intervention, that the location needs to be of the proper size and with equal abiotic factors. Also, societal acceptance can play a role in the choice of a suitable location. In general, there is the wish to realize compensatory nature as close as possible to the damaged site (Schaminée et al., 2013). Third, there is *the principle of timeliness*. This means that the compensation should be active on the moment that the negative impacts on nature start. At no time, there may be a loss of natural values. Compensation thus always needs to take place long before the actual negative impact, as most natural areas require some time to develop to the required state.

The rigor with which these principles are applied differs per case depending on the law that applies to it. For the compensation of Natura 2000 areas the principle of timeliness is of core importance, and compensation needs to be complete before negative effects of the project affect the area, but for damage to forests that are not part of Natura 2000 or NNN (if more than 10 hectare or tree planting rows of more than 20 trees are damaged), this needs to be done within three years after the felling of the trees (Broekmeyer et al., 2012).

The application of these principles theoretically would cause no net loss of biodiversity, but actually applying them in practice is far from easy. There is a great number of issues that arise in nature compensation in the Netherlands that all harm (one of) the principles mentioned above. Because the initiator of a certain spatial development (e.g. a railway company building a new railway line) is legally required to compensate for the loss him- or herself, a lack of knowledge on ecology and compensation practices is an important issue. Initiators therefore often do not know how to realize the required compensation (De Bie & Warmenhoven, 2012; Broekmeyer et al., 2012). Furthermore, it is often unclear who is responsible for the compensation and its control and monitoring (Broekmeyer et al., 2012; Schaminée et al. 2013; Schoukens, 2015). By law, the Provinces are responsible for this control and monitoring, but most provinces do not have a clear (or any) administration for compensations (Court of Audit, 2014). This also means that there is no nationwide overview of the current situation on nature compensation. Another problem is that in a densely populated country like

the Netherlands, it is often troublesome finding suitable locations with the right abiotic factors (Schaminée et al., 2013; Broekmeyer et al., 2012; Schoukens, 2015). Also, compensation is often undertaken out of time (or not at all), and so-called *stamp-compensation* prevails, implying that compensatory measures are of such a small scale that they are negligible in practice (Kalisvaart & Groenendaal, 2013). Habitat banking might offer solutions for these prevailing problems (De Bie & Warmenhoven, 2012; Broekmeyer et al., 2012).

5.2. Habitat banking

Habitat banking is based on the premise that public or private parties commit themselves to the maintenance, restoration or creation of nature. By doing this, they increase biodiversity. The value of this biodiversity is captured in credits. In the Netherlands, these credits are referred to as *nature credits* [natuurpunten], but *biodiversity credits*, *habitat credits*, or, in the case of the United States, where habitat banking focusses on the trade of wetland functions, *wetland credits*, are also commonly used. This thesis will use the term *nature credits* or *credits*. For each created credit, a party receives a certain amount of money from the habitat bank. The habitat bank can now sell the credits to initiators of a certain project that will negatively affect nature. By buying these credits, the initiator has fulfilled his or her legal obligation to compensate for the loss of biodiversity. Habitat banks cannot sell credits if it has no more valuable nature ‘on the bank’; this also means that habitat banks can be ‘sold out’. In 2010, 137 out of the circa 1000 wetland banks in the United States were sold out (Schoukens, 2015).

Habitat banking is popular in the United States, and in 2011 about 450.000 hectares of wetland was under permanent protection of a habitat bank (Becca et al., 2011). Initially, it started as a governmental initiative, but nowadays, 70% of the habitat banks is private (Schoukens, 2015). This differs significantly from the German situation, where 80% of the so-called ‘eco-pools’ is owned by a public party. While the form of habitat banking in the United States is often referred to as ‘commercial’ as it mainly rests on private initiatives, German habitat banks are often resulting from public initiative. ‘Commercial’ does however not mean that everything is possible. Both German and American habitat banks are under governmental supervision, requiring the fulfillment of certain ecological conditions of the selected site and its surroundings, a solid management plan of the area and certain arrangements to guarantee permanent execution of this plan (Schoukens, 2015). Habitat banking is also popular in Australia; other countries, like the United Kingdom, France and the Netherlands are in an experimental phase. The European Union is increasingly focusing on economically oriented conservation practices (they execute large scale research programs on ecosystem services and their valuation, to name one example) and has shown interest in developing habitat banking (Van Damme, 2012). In a report prepared for the European Commission titled ‘Exploring potential demand for and supply of habitat banking in the EU and appropriate design elements for a habitat banking scheme’ (Conway et al., 2013) there is noted that

biodiversity offsets have an important potential role to play in delivering the NNL [no net loss] objective of the EU Biodiversity Strategy, by requiring measurable compensation for residual losses of biodiversity, following avoidance, minimization and restoration or rehabilitation. Habitat banking has the potential to facilitate the delivery of offsets in an ecologically- and cost-effective way.

However, currently, the legal framework of the EU is not ready for the implementation of habitat banking, because of the lack of clear requirements for compensation and the absence of an institutional framework to establish a habitat bank (Van Damme, 2012; Conway et al., 2013).

Often, the basic rationale behind a metric to calculate biodiversity value is a multiplication of the area (hectares), its distinctiveness (habitat type) and its condition (quality). Sometimes, risk factors that account for difficulties or temporal delays are applied. This generally means that, the higher the biodiversity value, the higher the metric score. Offsetting nature with high credit value will thus be more expensive. **Table 1** gives an example of such a metric; in this case the metric that the Department for Environment, Food and Rural Affairs of the United Kingdom has developed. As stated, many other metrics have a similar mode of calculation at their cores. The German metric, for example, is based on surface and complexity of ecosystems, and assigns a value ranging from 1 to 64 to areas based on their rarity or complexity, where, for example, asphalt is equal to 1 and 64 to very rare and complex ecosystems.

The Netherlands Environmental Assessment Agency (PBL) has also developed a metric for the calculation of nature credits. This metric is based on the quality of the area, its surface, and has an additional weighting factor. The quality refers to the condition of the natural area, compared to what its state should be according to legal guidelines; an assigned score of 1 means that its quality is equal to the reference state. The weighting factor refers to the number of endangered species in the area, where a factor 1 refers to an average number of endangered species. It can also be used for accounting for the loss of certain habitat types. Rivers with peaty riverbeds, for example, have a factor of 0,8, while rivers with sandy or calcareous riverbeds know a factor 1,4. Finally, the bigger the area, the higher the number of credits (PBL, 2014). In the next chapter, I will further elaborate on the metric that has been used in the selected case of the Veluwe.

<i>Value of 1 ha in biodiversity units</i>		<i>Habitat distinctiveness</i>		
		<i>Low (2)</i>	<i>Medium (4)</i>	<i>High (6)</i>
<i>Habitat quality</i>	<i>Good (3)</i>	6	12	18
	<i>Moderate (2)</i>	4	8	12
	<i>Poor (1)</i>	2	4	6

table 1. Defra Biodiversity Offsetting Metric (Defra, 2013).

In order to bring about habitat banking, the three mentioned principles of nature compensation should largely be let go of (Schaminée et al., 2013). The proximity principle is harmed as habitat banking *per definition* creates nature on a location different than the place of its loss. What is more, it is hard to find suitable land for compensation practices close to the area of damage in a densely populated country like the Netherlands. However, the proximity principle is often perceived as not of key importance, as long as the ecological values are equal (Bugter, Vader & Van den Hoven, 2017). This is in line with the literature on offsetting that often treats natural areas as if they are not spatially and socially grounded. Still, for the sake of social acceptance, it is best to compensate near the site of damage (Schaminée et al., 2013).

The principle of timely compensation is often seen as a key element in successful voluntary and obligatory compensation (Broekmeyer et al., 2012; De Bie en Warmenhoven, 2012) to make sure that no *interim losses* of biodiversity values will occur. For habitat banking this means that nature credits have to be created beforehand and with no direct connection to the damage to nature that will be done in the future. This guarantees timely compensation, but is likely to harm the principle of equivalence as it is hard to create the ‘right’ (in this case ‘equal’) nature for compensation, as it is yet unknown what nature is about to be lost (Broekmeyer et al., 2011). In cases of strict legal protection, for example under the European Birds and Habitat Directives, which guarantees the protection of Natura 2000 areas, it is almost impossible to have the right nature on the bank. As nature is not required to be equal in anything but its credit value, the risk is brought about of losing variety in nature areas and of the development of easy-made nature (Broekmeyer et al., 2011). The creation of habitat banks is thus a strong manifestation of the principle of timeliness, but an abandonment of the proximity principle and the principle of equivalence.

From an ecological point of view, the timely compensation of nature is a great advantage of habitat banking. In current nature compensation, it is hard to guarantee that the results of the compensatory measures are sufficient to compensate for the damage done, as the application of a certain management to a certain location do not necessarily lead to the emergence of a predicted type of nature (Leroy & Gersie, 2004). In the case of habitat banking, this risk is circumvented because projects may only continue if damage is fully compensated beforehand (at least in case of legally protected nature). Another advantage is that habitat banking can focus on compensation areas that are of ecological importance as *on-site* compensation is no longer an issue. This can create larger, connected natural environments (Van Damme, 2012) – think of contributions to the development of NNN or the creation of corridors that link important ecosystems. The problem of fragmentation [versnippering] of Dutch nature can be addressed in that way (Broekmeyer et al., 2011; Schoukens, 2015). The European Commission (2014) also perceives these advantages; having stated that a large share of the European habitats are fragmented or degraded, habitat banking might provide opportunities to reverse this fragmentation, because habitats can freely be created in appropriate locations. The meaning of ‘appropriate’ is not unambiguous in this case, but from an ecological point

of view it often concerns the creation of habitats that restore functional connectivity, thereby facilitating movements between habitat patches (European Commission, 2014). The European Commission notes that an ongoing source of biodiversity loss in the EU is the cumulative effect of small-scale or low magnitude impacts. This also goes for the Netherlands (Gorissen et al., 2017). Habitat banking can be helpful in this case, as addressing small losses becomes easier and more effective with a system of habitat banking. Initiators do no longer independently need to (let someone else, e.g. an ecological consultant) determine the loss, the required compensation, draw up a management plan, change the zoning plan, monitor developments etc., but can outsource these responsibilities to the habitat bank. From an economic point of view, this forms an attractive solution for administrative struggles and losses of time in coordinating nature compensation for project developers (European Commission, 2014). It is likely to increase efficiency and results too; much of the problems with current nature compensation that were outlined at the end of section 5.1. on the legal framework of nature compensation are addressed in this way, because it likely that bankers will have more and proper knowledge on nature compensation, compared to a project developer. As habitat banking will be of a more central character, control and monitoring of these compensation areas becomes easier (Schoukens, 2015).

What is more, over the past forty years, the largest share of biodiversity was lost outside ‘dark green’ (nature areas under legal protection) areas and in rural areas in particular. This means that many biodiversity losses are beyond obligatory compensation. Voluntary compensation via habitat banking might play an important role then (Gorissen et al., 2017).

This combination of economic and ecological advantages explains the popularity of habitat banking (Schoukens, 2015). As stated in section 1.1., social implications are rarely considered, but absolutely necessary to discuss as habitat banking might become a standard for nature conservation in the Netherlands. Despite the notion that it might be a bit short-sighted to perceive habitat banking as an unfettered market-based approach to biodiversity compensation, as practical experiences with habitat banking in Germany and the United States show that strict governmental regulation and control can ease the economic character of habitat banking to some extent, over time, as regulations might be more relaxed than they are already, the risks off commodification cannot be ruled out. Pricing nature is in any case a fundamental step in environmental policy (Schoukens, 2015). The case of the United States might hold up a mirror, as habitat banking has become increasingly privatized and commercialized there since its foundation in the 1970s (Schoukens, 2015). The need for a thorough societal debate on the further economization of nature and its conservation is therefore definitely not sidelined by the economic and ecological benefits habitat banking is aiming to bring.

6. Methods and case

In chapter 2 I have already discussed critical discourse analysis, which forms the approach for data analysis of this thesis. I have introduced this in a separate, earlier section, because I wanted to introduce some of the concepts of critical discourse analysis and its related mode of thought that predominate over this thesis as early as possible for the reader to be aware of them. Therefore, this chapter outlines a general research strategy, the methods of data collection, a discussion on the selected case for this research and only some minor additions to the methods of data analysis.

6.1. Research strategy

There are numerous publications on qualitative research designs and methodology, but in general five key approaches are distinguished, which are ethnographic, narrative, phenomenological, grounded theory and case study designs (Creswell, 2010; Vennix, 2011). Yin (2009) notes that case studies are the “(...) preferred strategy when ‘how’ or ‘why’ questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context” (p. 1). Vennix (2011, p. 2013) notes something similar and adds that often multiple sources of evidence are used. All of these characteristics of a case study design apply to the intention of my research, as I am indeed trying to understand the ‘how’ and ‘why’ of the phenomenon of habitat banking in a context of Dutch nature conservation policy and its societalization by using multiple sources of evidence; therefore this approach is fitting. Clifford, French and Valentine (2016) note that it is a very suitable research design for researchers who are trying to understand the meanings that people construct in a complex socio-cultural context. As the selected theme of nature, its meaning, whether or not it can be compensated, who decides on this and why, neatly fits into this description, the selection of a case study approach is further justified.

The name already suggests that a case study revolves around a particular case, so it is important to wisely choose your case and distinguish it (Clifford, French & Valentine, 2016). Although it might be interesting to study not only a single, but multiple cases, a depth versus breadth trade-off is always inevitable. As the development of habitat banking in the Netherlands is only in an early stage, there are a small number of cases which could be selected. The case of the Veluwe (more on this later) is considered most suitable as there can be found a considerable number of documents that have been published on its development and results (as the project is completed), meetings have been held with an advisory board (the members of which I was able to interview for this research) and practical experimentation has taken place, which offers opportunities for critical reflection. A focus on a single case, which will be studied in depth, also makes sense with an eye on the limited amount of time and resources for this thesis (Clifford, French & Valentine, 2016). Depth is found in the selected case, while I can broaden my scope by relying on other people’s publications and expertise to build further on the issue.

6.2. Methods of data collection

Robertson (2008) pleads for interview- and site-based research, if one is willing to understand the principles of habitat banking. Buijs (2009) and Scholte et al. (2015) argue that semi-structured interviews are suitable if one pays attention to questions how and why people value nature, because respondents then have the freedom to reflect in their own words on their views on nature and the values it has for them. Because these reflections can be complex, the interactive character of a semi-structured creates room to ask supplementary questions. Therefore, I will collect data for my research by conducting semi-structured interviews with those involved in habitat banking (see Appendix I and II for the interview guides). This requires an interview guide where topics that are to be addressed are listed, but where no clear formulation or sequence of these questions is prescribed (Vennix, 2011, p. 253). To the interviews, I had taken with me a stack of cards with on them a description of characteristics of nature. Respondents were asked to select five priority characteristics. The cards were used to stimulate discussion and to get a feel of what respondents value in nature.

As one of the fundamental characteristics of a case study research is the draw on multiple sources of information (Creswell, 2010), semi-structured interviews do not suffice. Yin (2009) points out four types of data collection in case study research, which are observations, conducting interviews, studying archival records and desk research. Two of these are actively used in this study: conducting interviews and desk research. The combination of desk research and interviewing gives this research a good balance of breadth and depth. Although there are limitations to this approach, like the low external validity of drawn conclusions as the studied case does not offer a fully representative image of reality (Clifford, French & Valentine, 2016) or questionable external validity due to less structured methodology (Verschuren & Doorewaard, 2007), this study tries to make up for these limitations to some extent by firmly embedding the case in existing literature, thereby positively affecting this generalizability.

6.3. Case

Practical experiences with habitat banking in the Netherlands are rare. In the Raamvallei, the area surrounding the Lage Raam and the Graafsche Raam, including the municipalities of Mill & Sint Hubert, Grave and Cuijk, parties are experimenting with nature development as a mode of compensation of CO₂ emission under the realm of ‘banking’. In the region of Maasduinen, in the northeast of Limburg, habitat banking is considered as a possible revenue model for the national park in the area. However, habitat banking is far from a widely supported concept in the area (Bugter et al., 2017). Although municipalities, the provinces of Noord-Brabant and Limburg and landowners are sometimes interested in forms of voluntary compensation, they consider habitat banking to complex and are more interested in improving recreational facilities or the direct living environment.

The Veluwe is the only region that has actually experimented with habitat banking by

applying a metric to several cases, calculating the value of different areas, and where a cooperation agreement has been signed by several parties who thereby have committed to work together on the development of and practical experimenting with habitat banking. The goal of the project *Testing ground Veluwe* was “the development, testing and elaboration of all the elements of a habitat banking system in at least two concrete situations on the Veluwe” (Vitens et al., 2016, p. 7). If habitat would come in to being, it would be additional to obligatory compensation under, for example, European law or the Law on Nature Conservation. This project offered lots of practical experience to reflect upon and starting points for contact with different actors involved in this process of creating a habitat bank. Formally speaking, no transaction has taken place as an actual habitat bank has not yet been established in the Netherlands. However, this has no severe consequences for the thesis, as it is not necessary to bulldoze or create nature for a critical reflection on the disappearance or creation of nature with habitat banking.

The Veluwe is a varied but predominantly wooded area in the province of Gelderland in the Netherlands. Its borders are not clearly defined, but it roughly covers an area of 1000 km², which is bounded by the IJssel Valley, the four Veluwe bordering lakes (Nuldernauw, Wolderwijd, Veluwe Lake, Dronter Lake), the Nederrijn, and the Valley of Gelderland. 88.370 hectares of its surface is marked as Natura 2000 area (Province of Gelderland, 2017). As noted, it is a varied area, and features woodlands, heath, small lakes and some of Europe’s largest sand drifts. Large parts of the Veluwe are push moraines from the Saale ice age. The Veluwe is one of the most well-known and appreciated natural areas of the Netherlands. Because of its variation in habitats, its biodiversity is high. It is a popular destination for many Dutch and foreign tourists as it offers a place for different forms of leisure. It is also place where ten thousands of people live and work and where numerous businesses are housed; a large share of this businesses benefits from the favorable setting the Veluwe offers (Vitens et al., 2016).

The conviction that it is hard “(...) to combine necessary economic growth on the one hand and to keep or make our living environment robust”, motivated different organizations on the Veluwe to explore how “(...) habitat banking can be an instrument to reconcile economic growth with conservation, and where possible, restoration of biodiversity” (Vitens et al., 2016, p. 2). In the project *Testing ground Veluwe*, companies that cause biodiversity losses on the Veluwe work together with partners that offer biodiversity improvements, coordinated and accompanied by other organizations that strive for, or are at least interested in, the creation of a habitat bank in the Netherlands. The parties that have initially signed a cooperation agreement are:

- Vitens: a Dutch service company which manages the drinking water supply of millions of customers. It extracts groundwater, thereby positively or negatively affecting biodiversity. Vitens offers two of their water extraction areas for experimenting with habitat banking: one where a gain of biodiversity value is created, one where value might diminish.

- Veluwe Fund: a foundation that strives for sustainable development of the Veluwe, and supports initiatives that give the Veluwe an economic impulse. It facilitates reconciliation of economic growth and ecological sustainability in businesses, promotes the Veluwe and its regional products, brings actors and knowledge together and acquires resources for the maintenance and development of the area (Veluwe Fund, 2018).
- K3Delta; a sand and gravel extraction company with a focus on sustainable area development that takes the interest into account of all that are involved.
- De Gemeeynt; a cooperation of thinkers, entrepreneurs and advisors in the field of sustainability. This cooperation initiated the foundation of habitat banking, facilitates the project on the Veluwe, brings in the necessary knowledge in the form of conducted research (see for example De Bie & Warmenhoven, 2012 or Wiltink, Warmenhoven & De Bie, 2017) and has the upscaling of habitat banking to the Netherlands as a whole as one of its goals.

There are other parties that have shown interest in this project and are seated in an advisory board that is linked to the project; spokesmen of a number of parties in this advisory board have been interviewed. Two of these are the spokesmen of Nature Monuments and Landscape and Castles Gelderland have been interviewed as these organizations are both possible suppliers of nature credits and are two important conservation organizations in the Netherlands, and more specifically Gelderland, with respectively 719.800 and 45.000 members and contributors. Also, the representative of the National Green Fund, which finances projects that improve the quality of nature, landscape, air, water, biodiversity and experience of nature and aim for a “more sustainable balance between economy and ecology” (National Green Fund, 2018), has been interviewed, who, together with the interviewed spokesperson of the Veluwe Fund, approach the issue of habitat banking from a socio-economic perspective. I have spoken with the two head organizers and initiators of habitat banking in this case, both working for De Gemeeynt. Representatives of the Province of Gelderland, home of the Veluwe, were interviewed: a policy officer at the Province of Gelderland on the department of Nature and Landscape and the chairman and an employee of the Nature and Environment Federation Gelderland. This offered insight into how habitat banking fits in existing regulation on the provincial (Nature Network Gelderland) and European (Natura 2000) level. Also, a deputy of K3 Delta has been interviewed, experienced in area development and public participation. The chairman of the Foundation for Residential and Recreational Interests in Ermelo, where has been experimented with habitat banking, has been selected as a respondent to represent the local public to some extent, to find out more on how habitat banking is experienced ‘on ground level’.

All of the respondents (**table 2**) gave permission to record the interview. I have assigned a number to the respondents (in chronological order of the conduction of the interviews) that will be used for citations in the text. All of the recorded interviews were transcribed and uploaded in the qualitative data analysis program AtlasTi and used for coding and analyzing the interview transcripts.

<i>Respondent</i>	<i>Organization</i>	<i>Date and location</i>
Hans Warmenhoven (1)	De Gemeeynt	May 17, De Bilt
Steven de Bie (2)	De Gemeeynt	May 22, Klarenbeek
Bert Groeneveld (3)	Stichting Woon- en Recreatiebelangen Tonselse Veld (<i>Foundation for Residential and Recreational Interests</i>)	May 24, Ermelo
Volkert Vintges (4), Erik-Jan Bijleveld (5)	Gelderse Natuur en Milieufederatie (<i>Nature and Environment Federation Gelderland</i>)	June 4, Arnhem
Iwan Reerink (6)	K3 Delta sand and gravel extraction	June 5, Andelst
Jan van Muyden (7)	Veluwe Fonds (<i>Veluwe Fund</i>)	June 8, Klarenbeek
Joke Pinggen (8)	Province of Gelderland	June 11, Arnhem
Luc Berris (9)	Natuurmonumenten (<i>Nature monuments</i>)	June 13, Rheden
Theo Meeuwissen (10)	Geldersch Landschap & Kasteelen (<i>Landscape and Castles Gelderland</i>)	June 20, Arnhem
Pieter Baars (11)	Nationaal Groenfonds (<i>National Green Fund</i>)	July 3, Amersfoort

table 2. Respondents of this research, the organizations they represent and the date and location of the interview

In total there have been selected four terrains that will serve the project (**figure 6**). Two areas that ask for compensation, namely camping site De Haeghehorst in the municipality of Ermelo, and a drinking water extraction area of Vitens in De Speuld. Two other areas will generate credits, Poolsche Driessen in Putten and the floodplains of Havikerwaard near De Steeg in Gelderland.

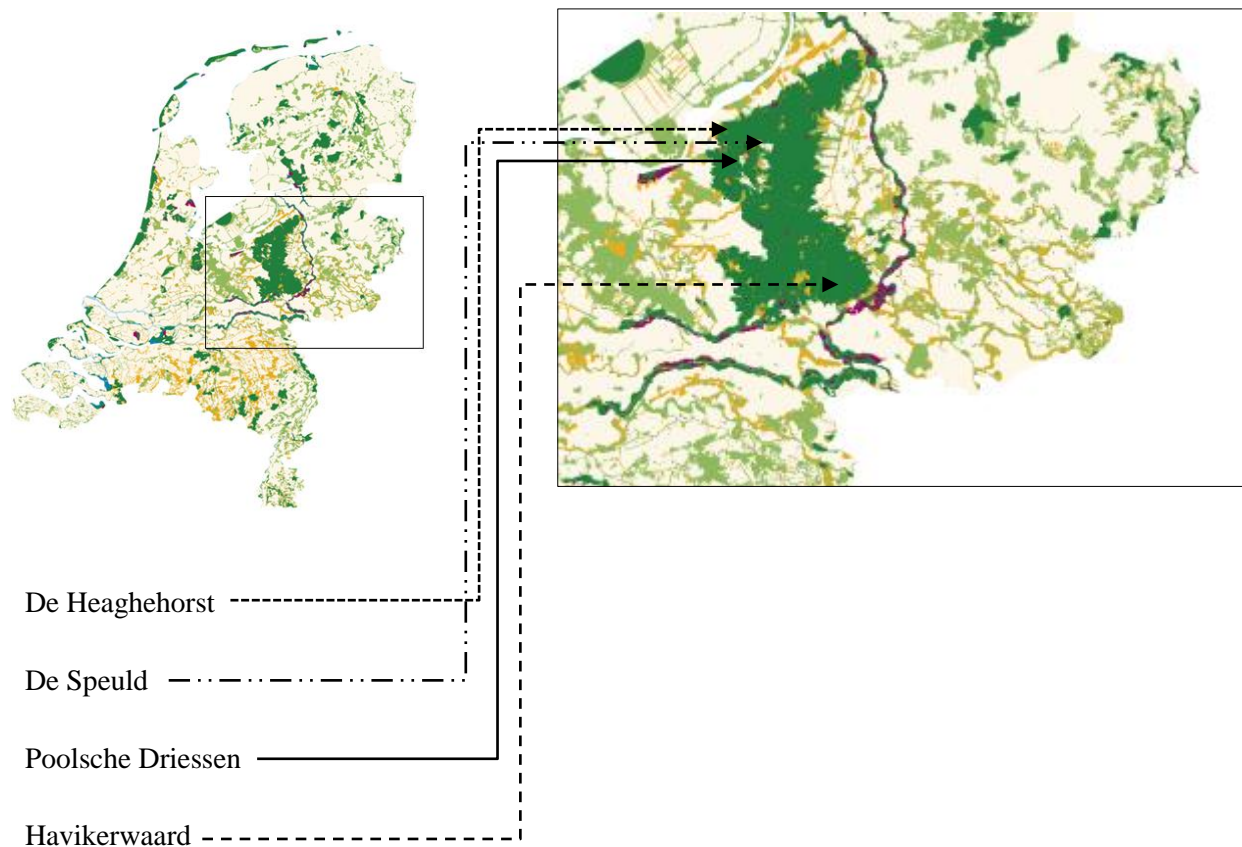


figure 6. Map with the selected terrains for the case study marked (for legend, see **figure 1**).

- De Haeghehorst: Camping site the Haeghehorst wants to improve and expand their parking facilities. On the Northwest side of the camping site, outside Natura 2000 area, there are plans to build a parking terrain of circa 4.100 m². On the Southeast side of the site, inside the Natura 2000 area, an expansion of the site of three hectares is planned. This expansion is used to increase the capacity of the camping and to make the use of the current site less intensive. The latter gives space to tree-planting, which improves the green look of the terrain.
- De Speuld: Vitens is leaving this drinking water extraction area, which means that (a part) of the extraction infrastructure will be removed which negatively affects the quality of the area.

- Poolsche Driessen: In this area, Vitens wants to create several heath fields and fens to improve the population of reptiles and amphibians of the area. By this, they increase landscape variation, as the coniferous forest that covers that area is then alternated with heath and fens.
- Havikerwaard: in the flood plains of the IJssel, an area development takes place, a part of which is the creation of a side channel of the river. This will increase the storage capacity of the river and will be combined with nature development and recreation (walking routes, an observation hut e.g.).

7. Results

This chapter focuses on the empirical data that was collected during my fieldwork. Based on my findings, the first section outlines a substantial discourse, which entails the dominant assumptions on nature, its role in society and its conservation. The second section outlines a governance discourse and contains dominant assumptions on the role of the state, the market and civil society in nature conservation with habitat banking. The third section combines the two outlined discourses. It focuses on how the social realities that have been outlined in the two discourses, based on certain representations as social facts, relate to or conflict with each other.

7.1. Substantial discourse

This section consists of four parts. The first part takes a close look at the dominant perceptions on nature of the respondents. The second part discusses the issue of nature conservation and how it is perceived. In that part, the focus lies on the question whether the conservation problem is perceived ‘structured’ or ‘tame’. Following from this, the third section elaborates on the presence of a modern discourse wherein conservation is approached as an economic issue. The final part focuses on the dominance of certain forms of knowledge in this approach to nature and its conservation.

7.1.1. Images of nature

In chapter 3 I have shown how perceptions of nature in the Netherlands have changed over time. It was noticeable that the way in which nature was perceived determined to a large extent what kind of nature was protected and how this was done. Nassauer (1995) even considers this a two-way process wherein “human landscape perception, cognition, and values directly affect the landscape and are affected by the landscape” (p. 229). In a very literal way, it relates to Foucault’s statement that discursive practices systematically form the objects of which they speak (Foucault, 1972, p. 49). Therefore, I consider it useful to take a closer look at the dominant perceptions on nature of the respondents. By analyzing these images of nature, it becomes clearer why habitat banking is considered an appropriate policy instrument for its protection. To be clear, I do not intend to show how Mr. A. has perception B. of nature and Ms. C. has perception D. – what I do intend is to distract from the interviews dominating perceptions of nature.

I will do this by means of the conceptualization of Buijs (2009) of *ideal types of images of nature* (**table 3**). These images should function as ideal type mental models in discussions on nature and can help to distinguish important differences in perceptions of nature and to prevent confusion by offering a common frame of reference.

This conceptualization is divided in a normative part (held values and value orientations) and a cognitive part (dominant beliefs on nature and its boundaries). The normative element entails the

moral status we assign to nature. These held values can be ecocentric, biocentric or anthropocentric. Ecocentrists plead for the conservation of holistic natural systems, where the value of individual animals or plants is subjective to the collective. Biocentrists value each living creature separately. From this perspective, ecosystems are often perceived as abstract, while individual creatures, in contrast to these abstract systems, can feel pain for example (Buijs, 2009). Anthropocentric interpretations focus on instrumental values of nature. Sometimes, these anthropocentric values are again divided in egocentric and altruistic values, where the former relates to oneself and one's direct social environment, while the latter relates to humans outside one's social environment (Stern, 2000).

Eco- and biocentrists argue that nature should be protected for nature's sake. They do this by referring to its intrinsic value. There exists a lot of discussion on what this exactly entails, and Jamieson (2008) offers some good insights in the complexity of the matter. Some argue that, what is of intrinsic value is independent of people who value it. Even if no one were around to value a thing, it would be valuable. Also, intrinsic value can be contrasted with instrumental value. What is of instrumental value is then only valuable because it helps in the realization of that what is of intrinsic value. These two, however, are not clearly separable. If I buy a painting to cover up a hole in the wall, I value the painting for its instrumental value. Over time, I can start to like this painting for whatever reason, and give it a more prominent place in my house, thereby not covering the hole. Now, I no longer value the painting instrumentally, but, in some sense, it has become of intrinsic value (see Jamieson, p. 154). However, generally it is seen as the value of nature independent of human interests. Since the very beginning of nature conservation in the Netherlands, a reference to the intrinsic value of nature has been a key argument for the protection of nature. However, this is changing, with organizations like Nature Monuments and State Forest Management focusing more and more on a demand-led management of nature (Schaminée et al., 2013).

The relationship between values people hold and their attitudes towards nature is complex. Pro-environmental behavior might just as well be originating from anthropocentric as from ecocentric values (Skogen, 1999). Hunters, for example often endorse anthropocentric values, while at the same time actively engaging in landscape management and conservation practices (Skogen, 2003). Animal protectors, who hold biocentric values, and nature conservators, who hold ecocentric values, both act out of love for nature, but result in very different perceptions on what is important (Janssen, 2013). The commotion in the Netherlands about the Oostvaardersplassen, where 'wild' animals are not fed in case of food shortages and shot to control the population, is a good example of how intrinsic valuation of nature might lead to very opposing visions on its management. Perceptions on management are therefore also a part of the conceptualization of Buijs (2009).

The cognitive element concerns the definitions people use to define nature and conceptions on how nature functions (Buijs, 2009). This also includes perceptions on the divide between nature and culture – do people consider human beings a part of nature? This results in the overview of ideal types of images of nature below (**table 3**).

<i>Ideal types of images of nature</i>	<i>Normative</i>			<i>Cognitive</i>		
	Values	Value orientations		Boundaries	Beliefs	
		<i>Level of management</i>	<i>Goal of management</i>	<i>Nature-culture divide?</i>	<i>Fragile or resilient?</i>	<i>Balance or change?</i>
Wilderness	Ecocentric	Hands off	<i>q</i>	$N \neq C$	Fragile	Balance
Autonomy	Biocentric	Hands off	<i>q</i>	$N \neq C$	Resilient	Change
Inclusive	Biocentric	Limited management	Nature	$N + C$	Fragile	Change
Aesthetic	Weak anthro-pocentric	Limited management	Landscape	$N + C$	Fragile	Balance
Functional	Anthro-pocentric	Hands on	Agriculture, forestry	$N + C$	Resilient	Change

table 3. Ideal types of images of nature (Buijs, 2009).

- **Wilderness**

In this ideal image, nature is defined as ‘not-culture’, thereby also implying a strict nature-culture divide. Many respondents argued that the Netherlands, as a close to fully cultivated country, has no nature.

In the Netherlands we factually do not have nature (...). We do not have undisturbed areas (...). We do have cultural landscapes, and these contain very high natural values.²

The definition of nature as ‘not-culture’ is very narrow (given the fact that some perceive everything as nature). The wilderness image focuses on holistic and ecocentric values as there is strived for the protection of ecosystems and species. The lives of individual plants and animals are considered subordinate to the value of the whole (ecosystem, species, biodiversity e.g.). These systems should be stable and in balance, and therefore undisturbed, as nature is fragile in maintaining its balance. External (human) influences might have negative consequences for nature; the decline of biodiversity due to spatial development testifies this.

This view has definitely turned out dominant during the conversations. Many perceive nature as “an area that is in balance and can maintain itself”⁶; “a reasonably large area, [so] the impact from

outside is relatively small”¹; an area that “can be named in terms of ecosystems”⁴; “develops itself without human influence”⁸ or “where you do not intervene”⁷. The wilderness image thus entails a strong hands-off value orientation, but respondents do agree that ‘Dutch nature’ requires management.

In the Netherlands, it is the only way. (...) People tend to overlook that if we do not mow, or pull the young trees out of the heath, we will be living in a forest in no time; and you don’t want that, you want to maintain certain types of landscapes.¹¹

- **Inclusive**

This image is also based on the intrinsic value of nature, but while the wilderness image has a very narrow definition of nature, here it is wide: nature and culture are interrelated and all living beings are defined as nature, including humans. “Birds make buildings too, only those of people are more complex, that is the only difference”⁹ noted a respondent.

While the wilderness image approaches nature in a more holistic manner, successes in this image are measured by controlling the health and integrity of individual plants and animals. All forms of life are valuable and deserve protection. Nature is seen as fragile, unpredictable and too complex to fully understand. This image diverges strongly from current nature conservation in the Netherlands with its focus on habitats and ecosystems. The head of the National Green Fund confirms this by stating that “(...) many people in the Netherlands define nature as ‘nature areas’, to me, nature is much broader, green in and around the city is nature just as well”¹¹.

Another difference lies in the fact that management of nature is not seen as negative per se. Interventions in nature do not necessarily affect the value of nature negatively. Respondents agree upon the notion that Dutch nature requires management. “If you are willing to keep what you have now, and that is not a must, but that could be nice, then you need permanent management”⁶.

- **Autonomy**

What this image has in common with the wilderness image is that this image too is based on the divide between nature and culture. It also appreciates wildness, but this is not determined by the absence of humans, but by the autonomy of the natural processes. Nature is thus self-organizing and self-sufficient, should be kept free of human interference, but because it is not determined by the visibility of humans and human artifacts, nature can be everywhere, even in cities.

On the question what types of nature he considered beautiful, a project developer of K3 Delta, a sand and gravel extraction company and area developer, gave the example of “an authentic dike with a kolk that has developed over time and has balanced out to such an extent that you should not intervene there anymore”⁶. Here, a human artifact is visible, in the shape of a dike, but next to it a self-organizing ‘eco-system’ came into being, which should not be touched by humans, implying that nature and culture can co-exist.

- **Aesthetic**

This image rests on the perception that nature is valuable because it offers people beauty and pleasant experiences. It is considered weak anthropocentric. It is ‘weak’ anthropocentric because it indeed focuses on a utilitarian value of nature, but mainly the non-material values, such as beauty and rest. Nature conservation should thus focus on the creation of attractive nature and recreational possibilities. It promotes active interventions in nature, as landscapes need proper maintenance to stay attractive. The definition of nature is broad, as cultural landscapes and parks are considered just as valuable as officially acknowledged nature areas.

Although all respondents agree on beauty and the capability to offer pleasant experiences being characteristics of nature, it is not that often addressed as its main function. Some did, for example the spokesman of a local Foundation for Residential and Recreational Interests, who stated that “[n]ature to me simply means *experience*. Animals, birds, enjoyment, quality, yes... It’s as simple as that. It offers space, it offers rest”³. It is also noticeable that the spokesmen of both Nature Monuments and Landscape and Castles Gelderland (two important conservation organizations in the Netherlands, and more specifically Gelderland, with respectively 719.800 and 45.000 members and contributors) stress the importance of this function of nature too, be it not always as its primary function. They respectively noted: “I approach the maintenance and development of nature from the idea that by working on a bigger scale you can get better results for nature, but also for the experience of nature”⁹ and “we do our job well if people feel good after they have left, if they had a nice or pleasant experience and also want to come back”¹⁰.

The position of these people might be explained by the fact that the citizens that their organizations represent tend to judge nature by its scenic value and by its suitability for relaxing and recreational activities, rather than by ecological values or ecosystem stability. They all stand for an ‘experienceable’ nature for their constituency. The project manager of K3 Delta takes a position in between by stating that “nature should be experienceable in a country like the Netherlands, but also defensible”⁶.

- **Functional**

The functional image is the only pure anthropocentric or utilitarian one, and the only one with a strong hands-on value orientation. Nature needs to be managed intensively, with a focus on the maintenance of natural resources and economic dependence of local communities. Agriculture, forestry, recreation and tourism are of core importance here. Nature is perceived as resilient and able to adapt to changing circumstances; well-managed nature is considered more attractive, while wilderness is often considered messy.

None of the respondents had an image of nature that came close to this functional image. As noted, some respondents stated that nature to them is closely related to recreation, but it is not

considered a guideline for high-quality nature. What is more, agriculture is often perceived as a threat to nature. The spokesman of the Veluwe fund notes that “we benefit from the variation of organisms around us, large variation, and that also goes for our food production, our agriculture, horticulture. We cannot win it with pesticides and monoculture”⁷. Farmers should sometimes “step aside”⁶ to make way for nature development and there is a plea for *nature inclusive* agriculture^{8, 10} for example. In short, there is not a plea for the active creation of anthropocentric values, but for the creation of bio- and ecocentric values, from which people might profit *if* these values can be combined with, for example, recreation or agriculture.

To conclude, all respondents consider nature important. This conviction sometimes is the reason for them to do the job they do (in the nature sector), sometimes it is considered important for personal reasons, sometimes it is perceived crucial for human existence. One of the initiators of habitat banking in the Netherlands stated: “Well, I consider nature important to me, but it also *is* important”¹. Ecocentric values are clearly dominating among the respondents. Many argue that there should be (created) ecosystems in balance, “so you cannot build a zoo, because then you have an increase of biodiversity, but no natural recovery”². This coincides with the dominant conservation discourse that is based on systems ecology and aims at the creation and protection of large, stable ecological systems (Schaminée et al., 2013). The role of human beings herein is more contested. Although many agree upon the idea that nature is ‘not-culture’, the prevailing idea is that nature in the Netherlands requires management, be it in a limited form. For some, this leads to the conclusion that this is no longer ‘nature’, but cultural landscapes with high natural values or “semi-nature”^{4, 7}, for others it can still be called nature, like the balanced out kolk, or city nature. Despite shared views on the importance of recreation in nature and nature’s function in offering pleasant experiences or beauty, I would argue that anthropocentric values are not dominant over the expressed ecocentric values. The protection of nature or biodiversity takes precedence over recreation, which must be considered a subsidiary function. The general absence of biocentric values can be explained by the respondents’ involvement in habitat banking, because its compensation logic would be rejected as value is assigned to each individual creature. The dominance of ecocentric perspectives is then no surprise, as habitat banking offers possibilities for the creation of balanced out ecosystems of a reasonable size, which are highly valued from this perspective.

7.1.2. (Un)structured problem

Rittel and Webber (1973) introduced the term ‘wicked’ to characterize (sets of) problems that are very complex. These problems are often difficult to define; have many interdependencies; are multi-causal; are not stable; have no clear solution; are socially complex and involve change of behavior; attempts to address them often lead to unforeseen consequences and the responsibility to address them rarely lies with one organization. Understandings of wicked problems change in different directions at

different speeds, fueled by new information on the problems or by change of the problem itself. Biodiversity loss has been defined a wicked problem (Sharman & Mlambo, 2012). Indeed, in the previous section on ideal types of images of nature it has become clear that people can hold very different values of nature and that the relationship between these values people hold and their attitudes towards nature and ideas on its management can be very complex. Incommensurable values or conflicting images of nature make the wickedness of the conservation problem to persist and thereby also contributes to lower *governability* (Song et al., 2013). Here, the concept of *governability* is loosely defined as the capacity to govern, given the real and foreseeable demands of those being governed (Kooiman, 2008). Governance initiatives can become a subject of resistance (or indifference) which renders a problem less governable. It also works the other way around, as democratic participation and wide representation could also enhance *governability* (Song et al., 2013).

The idea of a governable problem closely relates to that of a ‘tame’ problem, a concept that was too coined by Rittel and Webber (1973). They note that, opposed to wicked problems, there are tame problems. Tame problems are not simple per se, as they can be very technically complex, but these problems do have a clear definition and a solution that is identified. In this section, habitat banking is approached as an attempt to tame the wicked problem of biodiversity loss; an attempt to render the problem governable.

This approach is important given the discursive character of this research, for malicious governing interactions, think of dictatorship for example, may tame a problem by oppression and censorship, but at the cost of the real and foreseeable demands of those being governed (Song et al., 2013). Therefore it is needed to assess the quality of governance interactions, as one’s values may be silenced via interactions with other stakeholders. Then, power relations might be considered productive, but also restrictive and prohibitive.

Taming the problem

Actually, the taming already starts by deciding to focus on the protection and production of biodiversity. The use of the term biodiversity and its primacy as a scientific and policy concept is a relatively recent way of structuring nature conservation (Frederiksen, 2017). In the twentieth century, nature conservation became more scientifically oriented and the focus shifted from particular places and emplaced groups to generalizable habitats and species. Frederiksen (2017) notes that this shift “from the particular to the universal” (p. 44) was reinforced by the rise of the concept of ‘biodiversity’. In the 1980s it was promoted by a group of scientists as an organizing and rationalizing framework for conservation, focusing on the variety of life on earth on the level of species, genes and ecosystems (Takacs, 1996). It quickly found its way in conservation discourse and practice, mainly after signing the UN Convention on Biological Diversity at the Rio Earth Summit in 1992.

The concept of biodiversity attempts to provide a universal language to approach organisms

and ecologies, obscuring the place-specific and the particular. ‘Biodiversity’ thus is not some “true object that science progressively uncovers” (Escobar, 1998, p. 54) but a discourse that is a product of attempts to problematize the loss of nature by linking it to the loss of biological diversity. Conservation biologists articulated a “master narrative of biological crisis” (Escobar, 1998, p. 56) in the 1980’s and 1990’s, framing biodiversity as the key to save the planet, reframing the complexity of the problem by presenting it as a threat with a possible solution.

So, by focusing on a no net loss of biodiversity, habitat banking already has tamed the complex problem of nature conservation to a large extent. It focuses not on the particular, but on the universal, on biodiversity value, and its manifestation is a secondary issue, as can be derived from this quotation of one of the initiators of habitat banking in the Netherlands:

There is an international commitment to conserve biodiversity, because of its economic and non-economic values. A part of these non-economic values is beauty of landscapes and so on, but underlying these values, is biodiversity. The valuation is different, but the underlying biodiversity is the same for these valuations.²

By focusing on the universal value of biodiversity, particular manifestations of this biodiversity are ignored. In the case of landscape beauty, there is no relationship between biodiversity and this beauty. Some areas with a very low level of biodiversity are attractive to many, like sand drifts, deserts, steppes or savannas; some areas with a very high level of biodiversity, like rainforests, might be considered unattractive. One of the co-initiators of habitat banking in the Netherlands supports the idea that the biodiversity level is a proxy for all kinds of socio-cultural values of nature, such as inspiration or mental health, but adds that “there are certain types of nature that are very convenient in this area [of socio-cultural values], but which have a very low biodiversity value. Well, then I say: ‘I consider these biodiversity values, like the maintenance of genetic diversity, more important’”¹. The conclusion then is that “habitat banking has got nothing to do with nature. (...) People will call this nature [points at his herb-rich grassland]. Will they call a willow plantation nature? Probably not. But the biodiversity gain is the same”². Habitat banking thus favors conceptualizations of nature as biodiversity above particular manifestations of nature, such as its beauty or its quality to inspire.

Calculations

How is biodiversity calculated in habitat banking? The biodiversity value of an area is calculated with the formula *nature credits = surface x quality x weighting factor*. *Surface* is the surface of the area (per nature type) in hectares. *Quality* is based on the fraction of the number of observed and expected species compared with the number of species on the reference list in the *Manual Nature Target Types*. A *quality* of 1 implies that the quality of the area equals that of the reference list. *Weighting factor* is a multiplier used for indicating the importance of a nature type for the conservation of the national

biodiversity. A *weighting factor* of 1 implies an average number of endangered species. For example, a coniferous forest with exotic species has a *weighing factor* of 0.2, a sand drift of 1.0 and calcareous grassland of 1.9 (Jaspers et al., 2016).

This formula implies a high level of manufacturability of nature. The credit value of offset areas (which are still to be created at the moment of measurement) is based on expectations of which species will occur in a place. This estimation is based on the quality of the area (abiotic factors), size of the area, accessibility and the degree of disturbance (nearby highways, recreational activities e.g.) and on data on species distribution. In general, the respondents agree upon the idea that nature can be manufactured to some extent: “We can recreate lots of highly dynamic river nature in the Netherlands; if you let us bulldoze through the floodplains from Lobith to Rotterdam you will be having lots of willow forest and all kinds of other nice nature in no-time”⁶; “Oostvaardersplassen is *the* example that nature can be created”⁴; “In the Netherlands we have quite some experience with the creation of nature”¹¹.

Despite the consensus on the manufacturability of nature, the responses to the question if nature is *replaceable* are clouded by uncertainty: “I think it is hard to say that you are *replacing* it”²; “Well...in principle, yes, nature is replaceable, but that is more of a *theoretical yes*. In practice, I would hate to think that they’ll be saying: ‘You know what, we are going to replace the Veluwe’”¹; “From a very selective angle nature is replaceable and manufacturable”⁷; “On a given moment, you can decide to replace nature type *A* on a certain place by nature type *B* in a different place because it suits you better, and then it is nature too, but it is different nature.”¹¹; “[Habitat banking] can be used – in my opinion – for small scale solutions, and not on a large scale. That does not work. Then you really have to look at underlying systems. How does the hydrology work in that system, which areas are interconnected? (...) That can never be compensated by a habitat bank”¹⁰.

So, nature is considered manufacturable to some extent, but not that convincingly considered replaceable. This tension between the technically feasible manufacturability of nature and the ethically sensitive replacement of it is circumvented by focusing on biodiversity, as “species richness in itself is replaceable”⁷.

If you have an area with *x* species on an *y* surface and you will built an industrial site there and all that is left is some plantain and a nettle here and there, you can find another area, an old cornfield for example or a meadow, and there you can apply a type of management by which its species richness might reach the same level as what it has been in the area before the industrial site. (...) And this is also the idea behind habitat banking: let’s at least [halt] the loss of biodiversity, which is really severe...⁷

By focusing on biodiversity, the problem becomes addressable, meaning that “at least” something can be done – habitat banking is perceived by some as a “second best”⁷ where “the good suffices and we have to leave out the better”¹. The focus on biodiversity and the formula *nature credits* = *surface* *x*

quality x weighing factor makes the problem and its solution subsequently clearer and more feasible.

The calculations are based on the policy concept of *nature target types*. Nature target types are specific combinations of wild plants and animals of which its survival or existence is strived for in nature policy. This mostly happens by appointing locations that have a suitable abiotic environment (soil, water level, temperature e.g.) and prescribing a certain type of management, meaning that, implicitly, the formula *location + management = nature target type* is handled (Leroy & Gersie, 2004). This suggests that it is almost certain that a particular type of nature will come into being on a particular location under a particular form of management. Here, management is the only manipulative factor. Generally this leads to the conclusion that if a target type is not reached, there must have been something wrong with the management. However, external factors, such as other species or pollution effects, are influencing the presumed relation to such extent that the outcomes are not as sure as presented and definitely not sure enough to justify a “tight governmental regime of precisely localized management” (Leroy & Gersie, 2004, p. 35). Some respondents also note that there is always a degree of uncertainty when there is strived for a certain nature target type, and that the results aimed for are “not guaranteed”⁷ and “all you can do is create the right conditions and hope that a species will occur there”⁸.

Uncertainty?

Habitat banking has counted for this uncertainty by an insurance mechanism. Given the fact that after the development of an area or the change of its management it will demand some time before the expected biodiversity values will come into being, there is decided to pay 80% of the promised sum after execution of the development of the area. The remaining 20% will be paid only if the management is carried out for a longer period and the foreseen nature type is (more or less fully) developed (Wiltink, Warmenhoven & De Bie, 2017). This is done because financing costs will become too high if the actual payment for the created credits is linked to its development time (this might take tens of years).

This time lag is a prominent issue in habitat banking. It brings with it a lot of uncertainty on whether or not the foreseen nature type will develop. Also, the time lag causes some types of nature to be hard to compensate for: “Young nature can be more easily replaced then old nature. A forest of 100 or 200 years old, if you cut down a few hectares of it... That can hardly be offset”⁷; “Oostvaardersplassen and [nature] along the rivers, that is highly dynamic nature, there you will be having the most beautiful things in a couple of years, but you should not aim for that in a raised bog, that will take you 200 years”⁴; “[The bog landscape in the west of the Netherlands] developed itself for thousands of years and that cannot be replaced just like that, so that is not at all manufacturable, if you see the degree of manufacturability as *how soon it leads to result*”⁹.

With compensation logic, this means that nature that takes less time to develop is in general

less valuable than nature that takes more time: “The most valuable nature in this case, so not in the way I value it, but in the context of this problem, is the nature that requires the longest time to develop”⁹. It is noticeable that the respondent personally does not value nature in that way. Here we can see how one’s values can be silenced through governance interactions. It also shows the productive character of power that was stressed in chapter 2. The statement above makes clear that power can manifest itself by producing a certain form of knowledge that gets internalized by the individual. It is accepted that next to personal valuations of nature, there is another narrative “in the context of this problem”, and given that this individual is in favor of habitat banking, he sidelines his personal valuations for the sake of the success of a certain governance approach to nature conservation that conflicts with his own valuations of nature. It is also through these dynamics that a problem becomes more governable. Through habitat banking such forms of social control are institutionalized. The Province of Gelderland too has worked on the institutionalization of a valuation language of nature that is directly related to the development time of a certain type of nature. It has developed a multiplier that is applied in calculations of the value of protected NNN and Natura 2000 areas. Nature types that have fully developed in 5 years demand no multiplication, a development time of 5 to 25 years demands a 1,33 multiplier, 25 to 100 years 1,66 and 100 years or more at least 1,66⁸.

We are then left with an approach to conservation that has apparently accounted for all the uncertainties within its logic. Biodiversity and development time have been targeted proxies of nature’s value, its development is considered more or less assured by applying a certain management to a selected area and the uncertainties that remain on its development are covered financially. This has created a system that is considered close to inviolable and inclining to an institutionalization of power relations that favors narrow valuation languages over the complex set of values, value orientations and beliefs that I have outlined in section 7.1.1:

The one that needs credits causes a biodiversity loss, so you can only say to the ones that have a problem with me coming someplace: ‘Well, I have compensated for my biodiversity loss in this way, with that system of calculations, and that is an independent system; they carried it out independently, I had to, and this is the result. I bought this amount of credits.’ Then you might say: ‘I don’t believe it’. Then you say: ‘Well, then you should go to the central office, this is not up to me’. It is like driving too fast. You can say that you disagree on that it [maximum speed] is 120 kilometers per hour, but then you should go to the central government to say it should be 130, that is not the problem of the police. The same goes for this; and for the other side, for those creating credits. You might say: ‘You can tell me that it has increased in value, but I can’t see it’. ‘Well, I got it calculated independently, this is what it was and this is what it is. If you don’t believe me, you should go to the one that has come up with the system, but I can’t do anything about it.’²

7.1.3. Biodiversity loss as an economic issue

I have pointed out that habitat banking has transformed a wicked into a tame problem and has accounted for insecurities that remain. In the previous section the emphasis was put on the governability of the problem; this section elaborates on that, but focusses on the abstraction of nature for the sake of tradability of units of biodiversity. Since habitat banking is a market-based approach, there needs to be assigned a single exchange value to nature. This chapter focuses on how habitat banking reframes biodiversity loss as an economic problem. What are the consequences of this economic logic that is applied to biodiversity loss; thereby keeping in mind the power implications of habitat banking that were pointed out in the previous section? The following statement of the strategic advisor of the Dutch National Fund for Green Investments offers a good starting point for answering this question. He notes that habitat banking “(...) is just a mechanism, an instrument that should stay behind the scenes. What the public should start noticing, is that businesses more and more often will be saying: ‘We compensate’”¹¹.

What is interesting, is that there is drawn a line between “the public” and “businesses” and stated that habitat banking is an instrument suited for businesses and not for the public. There are other respondents who note that habitat banking is “(...) not something for the general public – absolutely not”¹⁰ and it “(...) all starts with a business that says: ‘In principle, I like this [habitat banking]’. If *that* is not even the case... The next step is that it has to be made incredibly easy. They [businesses] need to have a ready-made product, (...) like: ‘We will arrange that [the nature compensation] for you’”⁹.

The interviews have made clear that the development of habitat banking is largely driven by that, what is attractive to businesses. The former quotations already point this out, as it is considered that habitat banking should be offered as a ready-made product for businesses, and the act of using habitat banking to compensate for biodiversity losses should be incredibly easy. This position is supported by many and is well expressed in the following section, which offers an example of the considerations of the Delfzijl harbor to start using habitat banking in their business plan:

They [spokesmen of the Delfzijl harbor] said: ‘If we, as harbor of Delfzijl, have to conquer with other harbors, we must have a competitive advantage.’ (...) They said: ‘Via habitat banking, we want to compensate nature, in order for us to say to businesses that come here: ‘You don’t have to worry about all those nature laws anymore, that is all taken care of and compensated for’. And you, as a business, you may say: ‘Look! We have realized this meadow bird habitat for you [the people]’.’ So they [businesses] use it as a sales parameter”¹¹.

He continues to argue that habitat banking should be “(...) frame[d] as a marketing instrument that everybody is looking for”¹¹. In habitat banking, the want of businesses to compensate their done damage to nature in an easy fashion is combined with marketing, as the act of doing ‘something good’ for nature can be used as a parameter to positively affect sales. What is more, this does not only

concern the sales of the mentioned harbor, but of all the parties that do business with this harbor. You could indeed argue that, indirectly, these parties have contributed to the creation of the mentioned meadow bird habitat by positively affecting the revenue of the harbor, from which it can pay the habitat credits. Büscher et al. (2012) note that trade-offs like the expansion of a harbor in exchange for a meadow bird habitat may be portrayed as conservation success stories and can help to brand countries and communities to find competitive advantage.

However, this logic is problematic, as there is chosen to present only selected fragments of reality and to highlight some connections while concealing others. This hints at *greenwashing* (Büscher et al., 2012) as the creation of a bird habitat is highlighted, with the goal of improving the competitive position, while concealing negative externalities of production and, in this case, transport. Smith (2007) gives many examples of how this not only applies to production but to consumption too, where, for example, “oil companies, among the world’s greatest polluters, routinely advertise their decimation of nature as environmentally friendly, not least by celebrating their purchase of carbon credits” (p. 32). The result of this is that consumers are allowed to believe that consumption is positively related to conservation. Consumers are emerging as new agents in environmental policy, sometimes coordinated by NGOs, for example by boycotting polluting producers or labeling products that do (not) meet certain standards; ‘shopping to save the planet’ as a mantra responds to information on unjust environmental practices or workplace conditions (Liverman, 2004). In line with this, Žižek (2009) notes in one of his lectures, an analysis of *green* – or *cultural* as he refers to it – *capitalism*, that

the old consumerism-ethic dichotomy is (...) decomposed and re-created under a new perspective: as [a] company claims that its trade is fair, the conscience of the consumer is pleased for he or she believes that by buying [a product], he or she is actually performing a good deed. Therefore, there is no need of practically doing something good for the others if the sensation of having carried out a good action for another person is already included in the consumerist act of buying [a product] (p. 53).

A similar logic can be found in the case of the Delfzijl harbor mentioned above, where nature is protected through investment and consumption (Hartwick & Peet, 2003) and nature conservation can be achieved without addressing the systemic causes of the loss of nature (McAfee, 1999); it “seduces engagement while minimizing reflection” (Büscher et al., 2012). I will come back to this later in section 7.2.1 on the *nature inclusive* character of habitat banking.

Visibility

What also can be derived from the section above is that visibility (of a ‘good deed’) plays an important role in this case and habitat banking intends to meet up to these wishes. The Veluwe Fund is working on the development of a so-called *Veluwe Certificate*. This is a proof of use of habitat banking which

represents the compensatory nature that a business has bought and can be used as a visual quality judgment of the business and its practices. It is visual in the sense that the certificate offers the right to publish “(...) the GPS coordinates (...) on your website” or “(...) you may put up a sign at the area”⁷. Vatn (2018) notes that certification is one of the manifestations of the expanded role of privatization and markets in environmental governance. It offers private businesses a way to signal to consumers that products or production meet defined standards regarding for example environmental, health or social aspects. Such a certificate is useful in, for example, the following situation:

I recently spoke with somebody from Tennet [a transmission system operator in the Netherlands]; they had to build a high-voltage power line (...). And what was bothering Tennet was, they said: ‘Actually, we don’t care that much about how much we have to pay, as long as we can say: ‘Look, we are building a high-voltage power line which runs across the Netherlands, but we also are compensating for it (...); we put this amount of money in new nature’’.¹¹

In doing so, “(...) you can give the credits to those who admittedly disturb [nature] – but are allowed to do that, as they received permission from the government for this – but are also compensating for it”¹¹.

From these sections there can be derived that visibility plays an important role as it 1) might positively affect sales and 2) offers a *license to operate*, both via the creation of a more positive – *green*, if you wish – image. Although many respondents agree upon the first point, the role of habitat banking in offering a license to operate is less unambiguous. “[Habitat banking] is no license to operate. (...) [If you] fulfill all the conditions – legal conditions to undertake an activity – but you want to operate socially responsible, then you have to realize that next to legal conditions, there are social conditions too”². On the contrary, there is argued that businesses are willing to compensate, because they “(...) can do something if [they] show that [they] compensate – they just need that license to operate”¹¹.

The first statement represents habitat banking and the compensation for biodiversity loss as a *moral consideration*. One is legally obliged to fulfill certain conditions, and can decide to operate in a socially responsible fashion too. It is not framed as a justification of any act but rather a consequence of the realization that “(...) [it] is not acceptable what I do”². Here, acting socially responsible is the result of a wish to act socially responsible. The second statement frames habitat banking as a precondition and a justification of an act when entrepreneurship is bounded by social obligations. So, instead of a moral consideration, the involvement in habitat banking can be seen as a *social precondition* for entrepreneurship.

Both statements in some way reflect the ambition to place “(...) nature at the heart of society” while both in a different manner. Here we can find the drawn line between “the public” and “businesses” again, as noted in the beginning of this section. I would argue the first statement reflects

socialization (transferring responsibilities to civil society) while the second reflects marketization (transferring responsibilities to the market). This line is not unambiguous or solid, but roughly lines out prevailing modes of thought as ‘nature at the heart of society’ can mean as much as “(...) an economy into which nature is sustainably woven” (Ministry of Economic Affairs, 2014, p. 6); “that everyone should have the same possibilities to participate in the management of nature” (p. 41); “(...) a matter of well-understood self-interest, not of an obligation imposed by governments” (p. 18). The wide range of definitions of what societalization entails and the fact that businesses – and therefore capital accumulation – are part of ‘society’ makes it hard to express when nature policy becomes more ‘social’ and for whose interests. What makes it even harder is that while from a neoliberal perspective capital accumulation is often considered the prerequisite for positive social and environmental outcomes (Fletcher, 2010), a Marxist approach leads to the opposite conclusion, as will become clear in the following section.

Natural capital

Capital accumulation refers to the investment of profits to create more capital, thereby increasing the total quantity of capital. The difference between *money* and *capital* is that money circulates only to buy something (it facilitates the exchange of commodities), capital, however, is money that is used to buy something in order to sell it again. In *Capital*, Marx (1867) notes the following about this:

The simple circulation of commodities – selling in order to buy – is a means of carrying out a purpose unconnected with circulation, namely, the appropriation of use-values, the satisfaction of wants. The circulation of money as capital is, on the contrary, an end in itself, for the expansion of value takes place only within this constantly renewed movement. The circulation of capital has therefore no limits (p. 107)

As accumulation has no limits, this leads to the conclusion that capital “(...) contradicts the fundamental limitedness of natural forces and resources because of its drive toward infinite self-valorization” (Saito, 2017, p. 259). This fundamental contradiction makes the neoliberal conception of capital accumulation as a prerequisite for positive environmental outcomes rather dubious. As regards social sustainability, we have seen that by taming the problem of biodiversity loss and applying an economic logic to nature, the focus is shifted from the specific to the universal, all kinds of socio-cultural values of nature are abstracted for the sake of commodity creation and nature conservation is reframed from a moral consideration as a social precondition for entrepreneurship.

It is becoming increasingly clear that applying a capitalist logic to nature and its conservation is highly problematic. The notion that this is problematic can be partly traced back to the fact that, while habitat banking treats nature as commodities, there is a lot of scientific discussion on whether it can be framed as commodities *at all*. Vatn (2000) points out that there are two forces that limit the

expansion of the market into the field of nature conservation. First, these are ethical and cultural considerations. Considerations on the value of nature and the (im)possibility to treat the environment as a commodity vary between cultures and over time, but in any society there are goods considered wrong to trade (Vatn, 2000). The commodification of certain goods or services might reduce their value or pervert their functions. Friendship and the right to vote are examples of such goods (Vatn, 2000). Nature “contains many items which undeniably in the case of sentient animals, or arguably in the case of other animals and plants, have moral claims on us” (Holland, 1997, p. 130). This moral claim, together with the idea that nature plays an important role in the creation of identity; sense of belonging; (mental) health; religion and other spiritual practices; the notion that people have the responsibility to hand ‘inherited’ nature on to later generations in a good condition (Burgess, Clark and Harrison, 1995) are only a number of issues that point out the ethical precariousness of commodifying nature. Such sensitivities might explain the doubts that were expressed in section 7.1.2 on the substitutability of nature, while it was considered relatively easy to manufacture.

To this can be added crucial questions of justice, as habitat banking is essentially an anti-democratic means of resource management, where broad social discussion is replaced by narrow class control, as those who are able to leverage the greatest capital are likely to profit maximally (Jax et al., 2013). Three key ethical questions are raised on commodified ecosystems in the work of Jax et al. (2013): i) who makes the choices regarding the use of ecosystem services; ii) which values are included or highlighted and which are excluded or obscured and iii) who is impacted positively or negatively by the use? This research has already shed light on these questions by pointing out the power inequalities that habitat banking is based on (dominance of certain forms of knowledge) and produces (silencing of ‘deviant’ conceptualizations of nature; reframing conservation as a social precondition for entrepreneurship). The sections that follow will further elaborate on these issues. It is useful to add that this list of ethical issues is not meant to be exhaustive; throughout the rest of this research, more ethical sensitivities are to be found. However, many of them are somehow related to the above.

Second, there are a number of technical constraints inherent to the character of the good that limit the expansion of the market into the field of nature. The two core characteristics of a commodity are i) clear ownership rights and ii) clear boundaries, because otherwise property rights could not be executed (Kosoy & Corbera, 2010). This asks for an extreme simplification of the complexity of ecosystems and ignores relational aspects of nature and interdependencies of different ecosystem services. If we focus on the demarcation problem, we may demarcate pieces of land, but the ability to capture functions or services that are attached to this plot of land is illusory (Vatn, 2000). When commodification also entails physical transformation or transportation of resources – as in the case of habitat banking – location specific functions of those resources will cease. Also, since the environment is formally not owned, ownership must be assumed (Vatn, 2000). With economic reasoning, we can state that commodification has stopped where the potential gain of trading the commodity does not

cover the costs of demarcating it (Vatn, 2000). Simplification of the complexity of ecosystem services, by ignoring its relational aspects or its embeddedness in social processes for example, is thus needed to keep transaction costs low, in order to be profitable.

As noted, while from a neoliberal perspective capital accumulation is often considered the prerequisite for positive social outcomes (Fletcher, 2010), so far, we have seen that the capitalist logic of habitat banking has led to little positive social outcomes. By focusing on the universal value of biodiversity, and not on its particular manifestations and meanings, all kinds of socio-cultural values of nature are abstracted for the sake of tradability of units of biodiversity. What is more, all kinds of social and political decisions on environmental degradation (how much environmental degradation is acceptable; what nature do we need to protect; why; and so on) are taken out of the social domain, because “the capitalization of nature explicitly regulates such social decisions according to financial markets” (Smith, 2007, p. 25). Indeed, liberated capital “is not dependent upon legitimization through personal history and honor” (Saito, 2017, p. 41) and ignores the concrete material life of individuals (Marx & Engels, 1975, p. 286). I will come back to this in section 6.1.4 on the dominance of certain forms of knowledge, but I think it is not too early to already point out that the capitalist logic of habitat banking indeed tends to ignore the socio-cultural value and political tenor of nature, because it has turned these into economic issues. In line with this, as regards the environmental outcomes (which are also considered to be affected positively following neoliberal logic (Fletcher, 2010)) of habitat banking, the above has made clear that by introducing habitat banking economic growth becomes, paradoxically, the prerequisite for nature conservation, which in turn becomes the basis for further economic growth (Buscher et al., 2012, p. 12). This is dangerous, because “the relationship between economic growth and the health of ecosystems is considered from a very selective perspective, eliminating information which suggests that economic growth could be harmful in terms of the environment” (Buscher et al., 2012, p. 12 – 13). What it indeed ignores is that capital “(...) contradicts the fundamental limitedness of natural forces and resources because of its drive toward infinite self-valorization” (Saito, 2017, p. 259). As regards the statement above of Buscher et al. (2012, p. 12 – 13) I would like to add that this not only counts “in terms of the environment”, but, as we have seen, also *in terms of the social lifeworld*, where this “selective perspective” highlights positive, or at least no harmful outcomes for biodiversity while, under the veil of this equality, uneven social outcomes are created.

Habitat banking in business models

Under the realm of social entrepreneurship, there is argued that business should act more like nature conservators. But nature conservation organizations also have to start acting more like businesses. With subsidies for nature conservation declining, a focus in nature conservation heavily on costs, benefits and effectiveness of conservation practices, Schaminée et al. (2013) note that a shift towards a

more entrepreneurial kind of nature conservation is visible. The spokesman of the Veluwe Fund also sees this, though he does not have his heart in it: “It is just a fact that we need those assets. It is a bit ‘next best’, but if we do not have those assets...”⁷.

I have already pointed out that habitat banking can be used as a marketing instrument, but there are other ways in which habitat banking might create revenues. The primary example is that nature conservation organizations can offer biodiversity values. By managing their land in such a way that the biodiversity increases, this increase of biodiversity can be sold to the habitat bank and with this income costs for management might be covered and might also be profitable. However, it is problematic to find an actor that takes the first step in creating supply. This is because of the financial risk that comes along with it. What if there is no one to buy your created credits? What if the credit price is too low? In short, all kinds of uncertainties that are inherent to market participation. Therefore, some argue that “you need money to hedge the risk that initiators take”²; “actually, you need a million or two to develop that nature, and then you are in business”¹. In section 7.2.2 on the role of the market in habitat banking I will come back to these uncertainties.

Habitat banking offers more new possibilities for the development of functional revenue models. Many respondents refer to the possibilities that habitat banking offers for tendering procedures. While one of the goals of a call for tenders is the generation of competing offers from different parties, there is noted that in current tendering procedures, there are few opportunities to make a distinctive offer¹¹. Attempts to ‘think outside the box’ – that is to say not in line with the requested works – by proposing extra measures that would positively affect the area for example, are often in vain as they raise the costs of the offer. This often means that (ecologically) valuable contributions to these works are not made as it is far more likely that an offer with lower estimated costs is selected to carry out the work. An employee of K3 Delta notes how the development of new nature areas can be constrained by strict requirements of offered works in tendering procedures:

(...) we do our job, on all levels we have a fine score and we win the work, but we are able to create not only the demanded 15 acres of nature compensation, but 35 acres. If there is asked for 15 acres, currently, the remaining 20 acres that you could offer are not valuable for a tenderer. He will say: ‘Great, you offer us a gift, but this is not part of this project’.⁶

The result of this is that many potentially valuable additions to nature in the Netherlands are not made, as there is no money made available for them. If these additions can be properly valued by a habitat bank, the created values can be sold, which would create the acquired credit for the additional measures. Where cost-effectiveness of an offered bid is often decisive currently, the nature credit metric of the habitat bank is considered useful to judge contributions to nature, thereby granting possibilities to those that are willing to ‘do something good’ for their surroundings:

A bypass is built through a village – that is the case here in Voorst. There is a contractor that does an offer and says: ‘That bypass is passing a beautiful estate. I would like to – as compensation – invest in the quality of that estate’. (...) Well, because this was not in the tender conditions, it did not count; he did not make it.⁷

In chapter 4, I have reflected upon the revision of responsibility for nature. It is expected that responsibility for nature will be taken more by society. In line with this, I noted that corporate social responsibility can be considered a moral consideration and a social precondition for entrepreneurship. What is more, it can not only be seen as a *precondition* for entrepreneurship, but also as a *cause* for it, as it can be actively used as an instrument to create a competitive advantage. In the example of the Delfzijl harbor we have already seen how habitat banking can be used as a marketing instrument, and here we see, that by valuing gains for nature out of a corporate social responsibility motive in tendering procedures, a competitive advantage can be created that might result in the winning of the work.

This [the emergence of habitat banking] is a development that I would consider very important; that businesses start saying: ‘We want to do something because of our corporate social responsibility.’ (...) And if they improve their competitive position by that, in case of invitations to tender or whatever, so be it. Because it does not relieve them from their other job, as they also have to carry out their core business properly. But doing something on top of that? Fantastic. Vehemently in favor of it.¹⁰

This further reinforces the paradox that economic growth becomes the prerequisite for nature conservation, which in turn becomes the basis for further economic growth. If we take the construction of a highway as an example, in tendering procedures, nature will only be created *because of the construction of that highway*. Since the additional biodiversity value (in the shape of nature credits) can be sold to other project developers, it offers them a license to operate (be it as a consequence of personal moral considerations or as a met social precondition for entrepreneurship).

Because nature conservation organizations have to start acting more like entrepreneurs to generate their own resources, this also might bring about an element of competition *between* conservation organizations. Habitat banking is far from developed to a nation-wide conservation tool (although this ambition is expressed often), but if habitat banking would develop to that level, competition might possibly become an inherent part of it:

[With habitat banking] we want to raise financial resources for the Veluwe, but I know, that in the Achterhoek, there are parties, who also have their fund, that said: ‘That is a great method, we want that too’. And they say it too in South-Limburg: ‘We also want that’. So that phenomenon [habitat banking] can become area-based.

q But won't that result in a form of competition?

Well, so what? As long as there is money flowing (...).

q So, there is a chance that a lot of money will flow to the Veluwe, and no money at all to nature areas in Limburg, for example?

Yes, but then they will start doing it [habitat banking] in Limburg too. And I also think that we, as area-specific funds, have to support each other a little. We all need it.⁷

This section has made clear that habitat banking further institutionalizes economic language and logic. In chapter 4 I noted that the societalization of nature policy results in a mode of policy making in which the policy itself is intimately intertwined with stakeholders from civil society and business. Because state, market and civil society are intimately intertwined, it is somewhat shortsighted to conclude that we have perceived an expansion of economy in politics. This overlooks that the economic approach of habitat banking is in itself deeply political, as appointed in the sections above. What is more, the integration of nature into the laws of capital accumulation, also results in a certain conservationist tendency of capital, which is significantly different from its usual destructive form (Lemke, 2000).

However, through the institutionalization of economic language in nature conservation, other conceptualization of nature that might be productive might get sidelined. In section 7.1.2 I have called this a form of social control. By reframing biodiversity loss as an economic issue, the problem of its conservation is rendered governable, but this still leaves us with the paradox that economic growth becomes the prerequisite for nature conservation, which in turn becomes the basis for further economic growth. This downward spiral will eventually confront us with the fundamental limitedness of natural forces and resources. Habitat banking might be of a constructive character on the short term, but if the discourses that underlie this approach are institutionalized, the risk that other productive conceptualizations of nature (based on willingness to learn from nature, a desire to live a good, meaningful and worthwhile life, a concern for, or a solidarity with, future generations or a belief that things have intrinsic value (Admiraal et al., 2017), for example) are subjugated to the predominant economic discourse, which will be deconstructive on the long term.

7.1.4. Whose knowledge?

In chapter 2 I noted that power should not be regarded as a mere repressive phenomenon. It does not only restrict and prohibit, but it also traverses and produces things. I have also called it a 'network', because, as has become clear in chapter 4 on the societalization of nature policy, power is executed by a multiplicity of authorities (e.g. market actors, civil society organizations, individuals) which are interrelated. All the actors in this network work through different interests, beliefs and desires (Dean, 2010) and produce different forms of knowledge and discourse. This more networked form of government has been earlier referred to as *governance*.

Governance (and government) is intrinsically linked to knowledge (Gottweis, 2003). The legitimacy of policymaking often relies on technical and scientific arguments, which intertwines power with knowledge. Gottweis (2003) notes that “the exercise of power is predicated upon the deployment of knowledge” (p. 256). In sections 7.1.2 and 7.1.3 we have seen that the use of certain knowledge indeed has power implications. The concept of ‘biodiversity’, for example, shifts attention away from particular manifestations of this diversity and replaces them to the universal. Also, it is considered objective and ‘true’. Over time, by the deployment of knowledge based on this concept, this specific conceptualization of nature has more or less monopolized the conservation problem definition.

The question on whose knowledge habitat banking is built and how this influences the relationship between different forms of knowledge, and thus power relations, is an important one. Feindt & Oels (2005) note that discourse establishes what is ‘true’ based on socially accepted modes of knowledge production. In the very beginning of nature conservation, nature conservators based their motives, definitions of problems and their solutions on scientific knowledge as much as possible. This was a good strategy as social trust in science was great at that time (Leroy & Gersie, 2004). However, nowadays, the acceptance of scientific knowledge as truthful is not that obvious anymore (Dammers & Hajer, 2010). Scientists and governments are confronted with critical citizens that make use of the increased ways to inform themselves. Scientific sources are not decisive in this respect (Dutch Social and Cultural Planning Office, 2010). This leads to conflict because, as noted above, policy makers are often relying on scientific knowledge to legitimize their policies. With scientific knowledge considered as true knowledge, deviation from science-based plans is suboptimal. Resistance to plans will likely be answered with knowledge transfer and local arguments will be ignored (Leroy & Gersie, 2004), as shows the following quotation of one of the initiators of habitat banking:

(...) is society aware of the value of biodiversity? And is society aware of what biodiversity is? The answer to these two questions is no. (...) So if you ask people whether or not habitat banking is the best way to save biodiversity, then I think: you may not ask them that question because they do not know the answer to the other questions².

It is clear that scientific knowledge dominates habitat banking. In section 7.1.2 I have paid attention to how biodiversity is measured with the mentioned nature credit metric. The goal of using this metric is that it “results in a solid, objective and verifiable figure”⁷. This objectivity is needed to quantitatively express the value of nature to make it tradable and in order to conclude that someone has ‘sufficiently’ compensated for the loss they caused. An “objective and verifiable” figure makes the drawing of this conclusion much easier as the large number of subjectivities that valuing nature involves if value-pluralism is acknowledged are theoretically not a part of the consideration anymore. In the section that followed, I pointed at numerous difficulties in turning nature into a commodity, but not only the

creation of a commodity confronts us with complex issues, so does the assignation of a single exchange value to this commodity. Because valuing nature requires the exploration of the interface between ecosystems and human needs and demands, it thus inevitably involves some form of judgment on what is valuable (Jax et al., 2013). Most scholars agree that all dimensions of benefit should be valued, but they differ sharply on the accuracy and efficacy of using a single currency (Kareiva, 2011). One important critique on the assignation of a single exchange value to environmental goods is that conflicting valuation languages are prevalent in environmental decision-making and that these may not be commensurable in monetary terms (Martínez-Alier, 2002). The idea that different values cannot be expressed in one single value – often referred to as *incommensurability* – is based on the philosophical foundation of the weak comparability of values (Martínez-Alier et al., 1998). Authors often refer to the ‘cultural ecosystem services’ (non-material benefits provided by nature which enrich lives, such as recreation learning and tranquility) to prove the impossibility of commodification of nature, because these services are subject to so many intangible benefits and complexes of socio-cultural values, that their commodification is considered undesirable (Gómez-Baggethun & Ruiz-Perez, 2011) if not impossible (Vatn & Bromley, 1994). If a single value is assigned, this in any way implies the prioritization of one value over another, which creates underlying power asymmetries in defining what the value of nature is (Kosoy & Corbera, 2010).

Also, assigning a single value to nature may create a false feeling of control and understanding. We have already seen in sections 5.2 and 7.1.2 on the credit metric that it implies a high level of manufacturability of nature and is rooted in a discourse that is a product of attempts to problematize the loss of nature by linking it to the loss of biological diversity, but not a ‘reality out there’ or a “true object that science progressively uncovers” (Escobar, 1998, p. 54). This focus on the quantifiable, in turn may lead to the neglect of other values that are hard to quantify, emotional values for example, which might be, and are often considered, important for nature conservation (Kosoy & Corbera, 2010). It is not surprising then that, next to me, many authors wonder if the utilitarian framing of nature might be counterproductive for the conservation of nature on the long term (Gómez-Baggethun, 2010; Robertson, 2000, 2004; Soma, 2006). For example, Frey and Jegen (2001) warn that payments for ecosystem services might crowd out intrinsic motivations to undertake activity. Vatn (2010) states that payments for ecosystem services might alter the logic of doing what is considered to be appropriate to a purely instrumental logic of doing what is individually best to do. Conservation might then change from an ethical or communal obligation to an action out of economic self-interest (Gómez-Baggethun et al. 2010). This was indeed to be noted in the discussion in section 7.1.3 on nature conservation as a moral obligation or a social precondition for entrepreneurship.

What is more, for habitat banking to be attractive, there is claimed that it cannot be too complex, because “if you make it too complex, nobody will work with it; if you make it too easy then it is too crude and it won’t work”¹¹.

In his work on wetland banking in the United States, Robertson (2006) points out how the

commercialization of wetland banking has led to the simplification of assessment methods, “[a]s there was no need to translate ecological information into the abstractions required by the commodification process, assessments (...) were notoriously complex, involving pages look-up tables and finely tuned multipliers” (p. 384), but when a private, entrepreneurial banking system was initiated, such complex assessment methods were rejected, because “the complexity of [these methods] would have driven away potential producers” (p. 384).

Another reason for further simplification of the metric are the costs of quantification, “because if you ask an ecologists, he will say: ‘You really have to walk in the area for a week and count all species’, yeah, that will be way to expensive”¹. In the case study, two out of the four areas that were involved in the pilot were subjected to an ecological field survey (Poolsche Driessen and Havikerwaard). Nevertheless, to all the areas there has been assigned a credit value, as other data on the area is drawn from the National Database Flora and Fauna, a database with information on the geographical distribution of flora and fauna in the Netherlands (Eelerwoude, 2017). This database contains verified data only and is used, for example, by different Dutch provinces and municipalities. However, in the ecological report on the calculation of the credits of the pilot areas there is noted that

the identification of the distribution of target species is an important part of the nature credit metric. Limited identification leads to a lower number of nature credits in the current situation. A comprehensive identification is, on the other hand, labor-intensive and (therefore) expensive. Standardization with regard to research intensity, research period and the protocols used for habitat banking is necessary if, next to the NDFF-data, there will be made use of ecological field surveys (Eelerwoude, 2017).

With an eye on practical feasibility it is likely that certain ecological data will be left out, leading to lower credit scores for valued areas. This means that, even if the formula *nature credits = surface x quality x weighing factor* is assumed to be representative for the biodiversity value of an area, this formula will not result in the ‘actual’ credit value if there is not decided to make comprehensive identification the standard in habitat banking. This seems, however, unlikely:

In theory, the best way would be sending an army of ecologists into the field and let them write down what grows there, describe species, map their numbers. But then one thing is sure: that will be so expensive, that there won’t be any money left to improve anything anywhere; that’s all gone to the salaries of the ecologists.⁷

This means that assessment is not some neutral technical exercise. It turns out to be mainly about the development of functional assessment methods. We can find parallels with wetland banking in the United States, where there is a great need for the development of methods for assessment “that are simple, easy to learn, take only a short period of time, and yet can claim some basis in ecological science” (Robertson, 2006, p. 373). These methods are known as *rapid assessment methods*

(Robertson, 2006). These methods help to define a commodity that maintains a consistent identity across space and time in order for it to be traded on a market, to “produce ecological data that can circulate in the logics of capital and law” (Robertson, 2006, p. 375).

So, nature or biodiversity as an abstracted concept, bounded by the scientific possibilities and the extent to which one is willing to quantify it (with an eye on tradability and practicality) might not get lost, but the very material nature or biodiversity disappears, and

it is here that the process of subjugation of use values to exchange value manifests itself as a process of abstraction which is concrete in its very nature – in that its concreteness brings about material, tangible affects (Sayer, 1987) – and violent at once, given its erasure of the qualitatively incommensurable dimensions of use values (Apostolopoulou, Greco & Adams, 2018, p. 872).

Non-scientific knowledge

So far, I have pointed out that calculations are mainly based on expert knowledge with the goal of a no net loss of biodiversity. I have shown that there are severe limitations in the claim of a no net loss after the purchase of credits. But what should be done with the perceptions and knowledge of those not included in the calculation? One of the initiators of habitat banking notes that the compensation for biodiversity loss by buying credits should be the standard, a minimum, and then, it

(...) is possible that you need to do more, and one of the determining factors is the public opposition against the spatial intervention [but] that is not a case for habitat banking (...). So in habitat banking you will not be adding some sort of factor that represents the public opposition or so.¹

This implies that the compensation for the loss of biodiversity after a spatial intervention should be the norm (also to be found in claims to “at least [halt] the loss of biodiversity”); depending on the case and the related public resistance against a spatial intervention, the party that causes the loss can decide to compensate for more than only the loss of biodiversity value.

If you take away farmland from nature, or grassland, then it is less of a problem. Then you can easily say: ‘We transfer that to the Markerwadden [artificial archipelago in development located in the Markermeer in the Netherlands]’. But if you take away a beautiful, small recreational forest, then you should make sure that there will be a beautiful forest in return, rather fast, preferably earlier than the other one is harvested, and bigger, and so on, because that has to do with other forms of sentiment. In that case, the sentiment plays a much bigger role than purely those biodiversity values.¹

The difficulty of dealing with the socio-cultural value of nature comes forward here. Certain landscapes, such as farmland or grassland are considered less problematic to compensate for, as their calculated value is claimed to come just as well or better to its right in the Markerwadden as in its original form. Apostolopoulou, Greco and Adams (2018) warn that lower calculated biodiversity values can make certain green spaces an easier target of development, despite possible social or cultural importance, and adds that tradeoffs can be framed as *trade ups*, when, for example “(...) the development site consisted of ‘common’ farmland and the offset site would be restored to lowland meadow” (Apostolopoulou, Greco & Adams, 2018, p. 876). This logic can be found in the segment above too; where “in some cases the sentiment plays a much bigger role than purely those biodiversity values”. Such logic reinforces the long established division in conservation between ‘common’ and ‘unique’ nature, which ultimately denies social history to landscapes (Katz, 1998).

The Province of Gelderland, for example, is working on legally embedding this division in their locality regulation. There is made a distinction between three levels of nature: *common nature*, *special nature* and *great nature*, all three divided in the categories *forest – not-forest* and *wet – dry*. Nature types in the same category, for example *common dry nature that is no forest*, are considered interchangeable. For example, dry heath and herb-rich grassland are interchangeable. Trade-ups to a higher level of nature are also possible, though they should be of the same category. In the highest level of *great nature*, there are types of nature that are marked with a *, these may not be damaged, though they may be developed as compensatory nature; raised bog is an example of this.

But if “the sentiment” is to be taken into account, as in any case it may play “a much bigger role than purely those biodiversity values”, this leads to the conclusion that a case-by-case approach in habitat banking is inevitable. This conflicts, however, with the approach of habitat banking that strives for standardization, simplicity and objectivity:

Nature and landscape go along with so many emotions, which at a given moment can be many times stronger than any objective approach you can think of. (...) In my view, we are a part of that nature, because we are really depending on it. And this dependence at all times will make us cautious of approaches to nature that are far removed from ours. We become mistrustful (...) at the moment someone says: ‘O, but that is reasonably easy to arrange’.¹⁰

The discussion is continued by an analysis of a practical example that was part of the pilot for habitat banking in the Netherlands. It discusses how the value of nature calculated by the nature credit metric might differ from the lived experience with the compensatory practice.

Expansion of camping De Haeghehorst

Camping site the Haeghehorst aims to improve and expand their camping terrain and parking facilities. On the Northwest side of the camping site, outside Natura 2000 area, there are plans to build

a parking terrain of circa 4.100 m². On the Southeast side of the site, inside the Natura 2000 area, an expansion of the site of three hectares is planned. This expansion is used to increase the capacity of the camping and to make the use of the current site less intensive. The latter gives space to tree-planting, which improves the green look of the terrain. The expansion into the Natura 2000 area is only allowed in case of high societal importance and if there is compensated for the loss of the forest. Because the Natura 2000 areas are part of the formal domain of compensation based on European Union regulations, habitat banking has only been applied here as a test case. This does not have severe consequences for this case as there can still be reflected upon the lost area in relation to its calculated value.

To compensate for the loss of quality of the area as foraging area for the black woodpecker, based on European Union regulations, the quality of 15 hectares of production forest is improved by transforming it to a natural forest, with indigenous trees only. As the expansion of the camping site causes a loss of 3,4 hectares of forest, there is needed a compensation of 4,44 hectares (130% of 3,4 hectares). This compensation will be fulfilled in the same municipality, though be it on a distance of about 9 kilometers, in the shape of a redevelopment of farmland. This will be transformed to herb-rich grassland to improve food supply for bees on a local level.

The chairman of the Foundation for Residential and Recreational Interests of the neighborhood in which the above mentioned spatial intervention takes place notes the following on the compensatory measures:

They will be improving the quality of 15 acres of nature. They are removing the exotic trees and replanting indigenous trees. But then you think, is that improvement of the quality of nature? (...) [And, by removing] that 3,5 acres of that camping, you make the habitat of the [black] woodpecker, of which there left too little already, smaller. Well, then that improvement of nature quality (...) will be for the sake of the black woodpecker. But that does not make any sense, because... Look, black woodpeckers live on ants, dead wood, fallen beeches, they eat that. First they cut down all the exotic trees and they replace them with young trees. Before a beech dies, 150, 200 years have passed; then it needs to fall down, rot. (...) You compensate for nothing, because it will be in place in 150, 200 years. How many generations have passed then? Then I think, there is something wrong with you if you consider that a compensation! With a deferred effect of 200 years; 10 generations of people from now, and 20 or 30 of these birds. What is going on here?³

The dissatisfaction with the approach to this compensation is clearly visible. What is interesting, is that the main mode of reasoning is not from a people-oriented perspective, but from the perspective of the black woodpecker that loses living area. Only at the end, he refers to the 10 generations of people that have gone by before the compensation might be considered fulfilled, as people also enjoy the presence of the black woodpecker: “(...) where we live, if you see the black woodpecker fly (...), that

is just beautiful”³. On the other measures taken to compensate for the loss of three hectares of forest he notes:

They cut down 3,5 acres of forest, then you think: (...) they will replant 3,5 acres of forest, but they don't. Along the road to one of the villages on the Veluwe they have bought farmland, a cornfield, and you think, they will plant trees there – no, that will become a butterfly and bee field. Then you think for yourself: is this compensation? Yes, it is a different kind of nature, and in principle it is fine, because it connects two heathlands with each other, which is very clever ecologically speaking, but still... It gets you thinking: oh, so this is possible too.³

The mentioned principles of equality and timeliness are questioned in these sections, where the infringement of the principle of timeliness is heavily criticized while the principle of equality is only questioned, as the creation of a butterfly and bee field is different in kind, but “very clever ecologically speaking”.

How do these judgments relate to the score that resulted from the nature credit metric that has been used in this pilot case? The transformation of farmland (1,01 nature credit) into herb-rich grassland (1,07 nature credit) results in an increase of 0,06 nature credits. The transformation of 15 hectares of production forest (0,50 nature credit) into natural forest (2,22 nature credits) results in an increase of 1,72 nature credits. The expansion of De Haeghehorst leads to an increase of 0,09 nature credits. The fact that cutting down trees leads to an increase of 0,09 credits can be explained by the fact that “(...) the highest species richness can be found in places where there is a lot of variation, and a lot of variation can be found on boundaries: boundaries between forest and grassland (...)”⁷. By cutting down three hectares of forest, the length of forest-grassland boundaries increased, thereby positively affecting the biodiversity value of the area:

Actually, it had a positive effect, and still, in social terms, you think that there should be compensated for something, while you could actually say: ‘They created more [biodiversity], so somewhere else some of it [biodiversity] may disappear’, according to the strict metric...¹

On the basis of biodiversity losses, there would have been no reason to ask for compensation. On the contrary, the generated biodiversity values might have been sold to the habitat bank for profit making. This did not happen in practice, but it does show a flaw in the logic of habitat banking as cutting down trees theoretically becomes a profitable activity under the guise of increasing biodiversity value.

They are cutting down trees a lot now, removing the exotic ones. Well, I think a Douglas [fir] is beautiful too, and there is nothing wrong with an American oak. Why is it replaced with a Dutch oak? (...) Why [do we have to get rid of] the exotic trees? (...) Explain it to me. (...) There is so much irrationality in these things, or maybe there is rationality, but we are not aware of it; then make it known.³

In a reflection on this contradictory outcome one notes that “(...) we [founders of habitat banking] understand that (...) you should replant a hectare of forest if you cut down one. Politically speaking, we understand that”⁷. On the question whether or not the compensatory measures mentioned above were considered positive, he states that

(...) in terms of biodiversity we considered that positive. That was just the outcome. But, you know, for that reason, we have said – and we might be avoiding the discussion there a bit: ‘We do not get involved with obligatory compensation (...) which has to do with the protection of conservation areas.’ (...) Actually, we have decided to start talking with people on habitat banking only if they have fulfilled their legal obligations in order to prevent it from becoming too complicated and to avoid clashes with such formal compensation regulations.⁷

The quotation above clearly shows how tension can arise between state, market and civil society. The conceptualizations of nature of these actors differ significantly and it is clear that the conservation areas under governmental protection require a different conceptualization of nature than habitat banking does. In section 7.1.4 I noted that the commercialization of habitat banking in the United States led to an extreme simplification of the conceptualization of nature because the initial complexity of the ecological information (when nature conservation was still non-commercial), with all its look-up tables and finely tuned multipliers, would have driven away potential producers. This led to the development of rapid assessment methods. Therefore, it is not surprising that habitat banking in the Netherlands aims for biodiversity conservation outside of the legal domain of nature conservation. Its relatively simple conceptualization of nature, required to make nature tradable, conflicts with the relatively strict one of state and European law. Also, the market-based conceptualization of nature, where the transformation of 15 hectares of production forest into natural forest results in an increase of 1,72 nature credits, conflicts with lay peoples’ notion that exotic trees can be equally valuable as native ones.

The next section on the governance discourse elaborates on these tensions. By building on the conceptual triangle that depicts state, market and civil society (**figure 2** and **3**) the distribution of tasks, power and responsibilities between these groups will be analyzed.

7.2. Governance discourse

This chapter is divided in three sections, named ‘state’, ‘market’ and ‘civil society’. Although this might give the impression that these are easily separable in this case, they are not. The chapter ‘state’, for example, also refers to the role of civil society, the chapter ‘market’ to the state, and so on. These actors are too intimately intertwined with each other to split-separate, the focus of each section, however, is on the party that the title refers to.

While section 7.1 focused on conceptualizations of nature, its role in society and its

conservation, this section outlines a governance discourse and contains dominant assumptions on the role of the state, the market and civil society in nature conservation with habitat banking.

7.2.1. State

In chapter 4 I noted that a government can decide to privatize or liberalize their tasks, implying that a commercial party takes over a certain task; it might also decide to transfer tasks to civil society, be it to civil organizations or to individual citizens. In the Governmental Vision on Nature it is argued that

public involvement in nature (...) will result in nature being expanded, better perceived, embedded at every level of society and supported by the commitment of the public, business and private organizations. Nature will thus not need to be defended against society but is an indispensable and integral part of it. Public involvement will not only benefit nature but also biodiversity and its associated national and international objectives. The endeavor to place nature at the heart of society is based on the government's vision that society is shaped by its people, not by its government (Ministry of Economic Affairs, 2014, p. 7).

The Council for Public Administration (Rob) has advised the Dutch government to leave more room for societal initiative; stimulate this instead of regulating it and perceive societal initiative as a starter of new solutions for societal problems with a focus on what drives society (Gorissen et al., 2017). In the Governmental Vision on Nature, the connection of nature with society demands “freeing nature policy from the tendency to focus on detail” (Ministry of Economic Affairs, p.7) with the goal of a nature policy that “combines with economic developments more relaxed” (Gorissen et al., 2017, p. 24). “Nature should be entwined with other functions, so that they can strengthen each other” (Gorissen et al., 2017, p. 24).

In Dutch policy the term *nature inclusive* has become a popular term that captures this idea of involvement, commitment and economic growth and environmental responsibility going well together. Though its definition is not unambiguous (Van der Heide, 2018), it literally means that “nature is part of the process” (Ministry of Economic Affairs, 2014, p.19). It refers to a mode of thinking and acting that always takes nature into account. The Ministry of Economic Affairs (2014) notes in its Government Vision that nature inclusive acting and thinking has a side of opportunity and of precaution, where “making use of the principles and properties of nature more often provides us with the opportunity to work better and more cheaply. And applying the principle of precaution we can reduce or even prevent damage to nature” (p. 19). In this discourse, economic growth and ecological sustainability can go hand in hand. It is rooted in ecomodernist beliefs that further modernization of society will lead to more sustainable modes of life. Nature inclusive growth is “growth based on the use of our natural capital in a way that also helps this capital to grow” (p. 18). Nature should thus not be defended against society, but by its use, nature might even become “expanded”. Nature is no longer

perceived as something that the government protects (from the people), but as something for everybody, something societal. Habitat banking is considered a possibility for making economic activities more nature inclusive (Gorissen et al., 2017).

A policy officer at the Province of Gelderland on the department of Nature and Landscape notes that “with [Nature Network the Netherlands] and Natura 2000 you just don’t make it – the decline of biodiversity: you just need much more. Nature inclusive thinking has emerged”⁸. As noted, *nature inclusive* refers to a mode of thinking and acting. As a mode of thought, nature inclusive thinking refers to an active consideration of the role of nature in a certain activity. How can nature positively affect my project? How does my project negatively (or positively) affect it? What should I do with that? To me, these are important questions that highlight the importance and vulnerability of nature, thereby evoking a careful handling of it.

However, I would argue that with habitat banking such considerations are *outsourced*. Put bluntly, one can buy the guarantee that all damage done will be compensated for, without active thinking on the act and how it relates to nature. This task is outsourced to an institution that will do it for you, thereby still not placing nature ‘at the heart of society’ as current nature policies aspire. This is to be found in the interviews as well, as there is noted the following for example: “[y]ou don’t have to worry about all those nature laws anymore, that is all taken care of and compensated for”¹¹; and “[compensation for biodiversity losses] has to be made incredibly easy”⁹; and nature compensation is seen as a “product”^{7,9}.

It relates to the consumerism-ethic dichotomy, where in ‘green’ or ‘natural’ capitalism the idea prevails that buying a certain product is equal to the performance of a good deed. It forms an approach where nature is protected through investment and consumption (Hartwick & Peet, 2003) which “seduces engagement while minimizing reflection” (Büscher et al., 2012). This paradox of consumption and protection is internal to nature inclusive growth, as this growth is “(...) based on the use of our natural capital in a way that also helps this capital to grow” (p. 18). This twisted logic wherein one can have his cake and eat it too forms the very foundation of the vision of nature at the heart of society (Ministry of Economic Affairs, 2014). It also builds on the idea that people have interests in nature; that it brings benefits to local communities, and therefore people’s valuation of nature should be done full justice. This contrasts with the rather exclusive approach of habitat banking observed so far.

Nonetheless, what habitat banking might invoke is awareness of the negative external effects of actions and the idea that for this, there is a price to pay. In some way, it touches upon the problem in economics that nature is perceived as a positive externality, which normally is not priced, though profited from. By making this ‘price’ (in monetary terms or not) visible, it might invoke awareness on the current externality of ecosystem services. ““I am aware of my societal responsibility; I know that I am having an impact on biodiversity now. Could you help me and where could I compensate for that loss?””² might be the logic according to which is reasoned then.

To conclude on nature inclusive thinking, I argue that habitat banking does not place nature at the heart of society in a way that everybody considers nature as an active part in the weighing of interests. To some extent, it outsources this consideration to the habitat bank, who then will find a suitable approach. It might, though, create awareness on the negative impacts of an act, as its ‘price’ is made visible by introducing habitat banking, thereby raising the issue that nature is not a mere positive externality.

Nature inclusive acting

The central organization of nature compensation by a habitat bank offers a solution in the sense that compensation can take place where it is “actually ecologically relevant, and approached as a coherent whole, and not like: ‘I was able to buy a plot of land there, so we’ll do it there’ (...) and someone is working on it who properly knows what he is doing”⁵. There is added that “a trap might be, that you will to easily say: ‘We can realize that [compensation]’. In principle, I think that not damaging nature is better, so that you don’t have to compensate. (...) You have to be reluctant in allowing that damaging, but if you *do* allow it, it has to be arranged properly”⁵.

Vatn (2018) sees this dilemma too. He points out that habitat banking can make higher levels of biodiversity protection possible because costs are reduced. This is mostly a result of economies of scale – “changing a zoning plan for 100 m² is of course very expensive”⁸. At the same time, “it may legitimize a lowered ‘fence’ against ‘land development’” (Vatn, 2018, p. 174). He adds that a related problem is that fewer measures are taken onsite than expected, as offsetting is cheaper. This results in “erosion” (p. 174) of the mitigation hierarchy. Several respondents argue that therefore the government should have a controlling task:

If I was the government, I would stimulate habitat banking, but I would say: ‘I mainly want to see it there and there’. It has been said that habitat banking has a leveling effect, because [certain types of nature] are easily created. (...) So, therefore it is wise to take a certain control (...) and thereby you prevent it from becoming all the same.²

This brings us to nature inclusiveness as an act. Can compensation via a habitat bank be seen as a nature inclusive act? To answer this question, it is useful to look at the mentioned mitigation hierarchy, where compensation forms a last resort after attempts to avoid and mitigate impacts. The difference between mitigation and compensation, however, is not clear (Frins, 2015; Zijlmans & Woldendorp, 2015). This can be demonstrated with the protection of a Natura 2000 area as a case.

Every spatial development in or near a Natura 2000 area is subject to a *pre-assessment* to determine whether or not a plan has a significant negative impact on the conservation objectives of the area. In most project plans conservation objectives are already integrated to avoid thorough adaptations of the plan after a pre-assessment with a negative outcome. Zijlmans & Woldendorp

(2015) argue that only conservation measures that are directly linked to and necessary for the achievement of the objectives of the project are an intrinsic part of the actual project. These taken measures can be considered as mitigation, and therefore may be included in the pre-assessment. Good examples of mitigating measures are the placing of a noise barrier along a new road, placing fish screens at cooling water intakes to prevent them from swimming or being drawn into them or placing reflecting strips on fishing nets to keep birds on a distance to prevent bycatch (unintentionally caught species) (Frins, 2015). These measures are functionally linked to the project, as neither the noise barrier, nor the fishing screens, nor the reflecting strips have the right to exist apart from the project they are a part of.

If the project still has a negative impact on the Natura 2000 area it is in or near, an extensive habitat test takes place. This test should point out that there are imperative reasons of overriding public interest for the project and that it has no alternatives. If this is the case, for all the remaining damage, there should be compensated, in order for the conservation objectives not to be negatively affected. Therefore, compensatory measures are *not* a part of the project.

Frins (2015) offers an example of the construction of the residential area IJburg II in Amsterdam. With its construction, mussel banks in the area would disappear. Because several protected species that live in the Natura 2000 area *Markermeer & IJmeer* are dependent on the mussels that live in these banks, this loss needed to be avoided, mitigated or eventually compensated. Therefore, 132 hectares of new mussel banks were created. The conclusion of the pre-assessment was that there are no significant negative effects on the natural values of the selected area, as the construction of mussel banks was labeled a mitigating measure. Frins (2015) rightly points out that this is wrong as the constructed mussel banks also have a right to exist apart from the project, as they would positively affect the habitat *even without IJburg II*.

I would argue that mitigating measures are nature inclusive, as they aim for a direct (inclusive) netting of negative effects of a project. Compensation is an act that is exclusive to the project itself. Habitat banking thus not promotes nature inclusiveness. In fact, we can observe an erosion of the mitigation hierarchy as offsetting is often cheaper, thereby making nature inclusive acting less attractive. The case of the expansion of De Haeghehorst which has been discussed earlier also forms an interesting case in this respect. In the jurisprudence on this expansion, the Nature and Environment Federation Gelderland argues that:

The mitigating measures in question [for the loss of 3 hectares of forest] are more compensatory measures. The designation act Natura 2000 does provide for the possibility to compensate for a loss of habitat by a quality improvement elsewhere (Province of Gelderland, 2016, p. 6).

The response is as follows:

There is a loss of quality of the habitat of the black woodpecker. This does not lead to a significant effect. The loss of area for the European honey buzzard is as noted in the reaction below 1a not to be considered significant. Mitigating measures are taken by for example the transformation of production forest to a natural forest and by disconnecting walkways. These measures take place in the N2000 area and can be considered mitigating measures. Also, these measures have to be taken before the works for the expansion start (Province of Gelderland, 2016, p. 6).

The question whether or not these measures are mitigating or compensatory is easy to answer, as there can be noted that the transformation of production forest into natural forest and the disconnection of walkways are not a part of the project, as these measures have the right to exist even without the expansion of the camping. If these measures would have been labeled compensatory, the impact on the Natura 2000 area might have turned out significant in the pre-assessment, thereby making an extensive habitat test (testing imperative reasons of overriding public interest, alternatives and possible compensatory measures) obligatory.

The government then has a central task in defining what these imperative reasons of overriding public interest are. There is no definition of this concept in the Habitats Directive, but Article 6 (4) mentions human health, public safety and beneficial consequences of primary importance for the environment as examples. Reasons that are often provided are in the interest of (regional) (un)employment, (regional) housing, traffic, sustainable energy or activities that are considered a corner stone of the Dutch economy (e.g. Schiphol Airport, the harbor of Rotterdam) (Onrust & Drahmman, 2014). These interests must be explicitly weighed up against the importance of the protection of the flora and fauna in place. Because the interest needs to be 'public', projects that only serve the interests of businesses or individuals are not included.

This all takes place in the legal domain of the Habitats Directive. The majority of areas in the Netherlands does, however, not enjoy this strict protection. This does not mean that it is not important to distinguish between mitigating and compensatory measures for two reasons. First, I think it is important to address the fact that habitat banking is not a nature inclusive approach, as this might invoke greenwashing of activities. Compensating for damage via habitat banking does not make the act in itself 'green'; it *does* cause a loss of biodiversity, though a claimed *no net* loss. While the realism of an absolute *no loss* of biodiversity is questionable, it theoretically is the only desirable solution to stop the loss of biodiversity (Vaissiere et al., 2017). What is important is that *no net loss* and *no loss* are not conflated, to prevent celebrating 'greenness' while not addressing the ultimate causes of biodiversity loss. Second, it touches upon the governmental responsibility to allow spatial interventions that cause biodiversity loss. In most cases, habitat banking is relevant only after a government has agreed with a certain (spatial) development that might cause biodiversity loss. According to some respondents, it is because of a failing government that habitat banking is needed,

and that therefore they are responsible for kick-starting habitat banking by hedging the risk that initiators take.

If only the government did its best, then we would not have come this far... Then it [habitat banking] might have not been needed. These are all things that originate from a failing governmental policy. Failing in deciding where businesses may establish; what the basic level of biodiversity is in areas outside the protected areas, and so on. You can mention one policy after the other, and because the government fails there, we need these kinds of systems.²

Earlier I have noted that there is a plea for a framing of habitat banking as a “marketing instrument that everybody is looking for”, and that trade-offs may be portrayed as conservation success stories that can help to brand countries and communities to find competitive advantage. This perverse state of affairs is institutionalized by habitat banking, but one must not forget that “the whole system of nature credits and habitat banking is more of a consequence of a government taking a certain decision, permitting something, and then: how do you profit from that?”¹¹; “and if you allow it anyway, then it needs to be compensated, that is a prerequisite, but preferably not [allow it]”⁴. There is a plea for representation of nature compensation “from its positive side” based on the logic that “if it happens anyway, then make use of it”¹¹. Following this logic, habitat banking can be seen as a resulting from expansion drift due to capital accumulation and governmental approval of this expansion at the cost of biodiversity. There thus lies a great responsibility with the government to approve spatial developments that harm biodiversity, and according to one respondent, also in solving ignorance in businesses, “because there is nobody that deliberately destroys biodiversity, nor in businesses, nor in governments. It is ignorance; and that ignorance can be solved by the government”².

The relation of nature conservation with state involvement turns out to be consistently ambiguous. The strive for societalization of nature policy, based on the ideal of a less intrusive state and the idea that nature conservation is not something that has to be imposed by governments (Ministry of Economic Affairs, 2014, p. 18), conflicts with the fact the central government bears great responsibility to approve certain spatial developments, to educate, and, not least important, the fact that state-sponsored protected areas still form the mainstay of international conservation (Igoe & Brockington, 2007). This refines the prevailing ideal of societalization to some extent and shows how power can be both a productive phenomenon (state-sponsored protected areas) and a destructive one (approval of spatial developments).

7.2.2. Market

Throughout this thesis the notion that capital “(...) contradicts the fundamental limitedness of natural forces and resources because of its drive toward infinite self-valorization” (Saito, 2017, p. 259) has come forward in several forms. In the section above there can be noted that the expansion drift of

businesses (capital) is taken for granted and shaped into something that is more “positive”. The idea that habitat banking is perceived as “second best”⁷ where “the good suffices and we have to leave out the better”¹ shows how one is forced to play the cards one is dealt.

Out of a need to do something to halt the loss of biodiversity I think: everything you can do, you have to do. (...) I think we have not yet won the battle against the free market thinking, not for a while, but if you wait for that it is too late.⁷

This means that free market logic is applied to the biodiversity problem to make it governable to some extent, to do “something” about it. This also means that there needs to be a certain supply and demand. According to Gorissen et al. (2017) “(...) habitat banking anticipates on the sometimes actual, but most often latent wish of businesses and individuals to invest voluntarily in nature” (p. 64). Despite this, it is still unclear what the demand of nature credits will be, which is for many respondents the biggest doubt they have about habitat banking.

But, what is the demand? We are in the voluntary domain [of compensation], because we do not want to be in the hornets’ nest of the obligatory compensation, where the provinces take precedence... And voluntary compensation, yeah, why would anybody do that? And that is what we [founders of habitat banking] are struggling with: that awareness of everyone, of businesses, but also of you and me (...), that with everything we do, the nature deteriorates, and that you should actually compensate for that, that exists only to a very limited extent.¹

Many other respondents share the questioning attitude towards the demand of these credits. They often do agree upon the statement that the idea in itself is good, and that there exists the ambition in many businesses to do something for their (direct) environment, but there is little sight on the actual demand of credits. Some see this as “the main problem” as they have “no idea how big the market is; (...) that makes it or breaks it”⁹. A policy officer at the Province of Gelderland on the department of Nature and Landscape estimates that there might only be four or five voluntary compensations per year, and therefore thinks it is too much of an effort to develop an “entire banking system” to provide for this small number of demand: “I just can’t imagine that there are many companies eager to buy these credits. I just don’t believe it”⁸. Later on, she adds:

I think that many businesses want to do something in the neighborhood for the sake of goodwill, but that can also be in the form of support of the football club or something park-like around their business park. (...) And you have no clue where it [the compensatory nature] will be, you know? Why would a business buy credits that represent a piece of herb-rich grassland on the other side of the province? I don’t believe in that.⁸

From an economic point of view it is important that demand for nature credits persists. This creates a situation wherein economic growth and project developments that harm nature become responsible for

the continued existence of the habitat bank. By reframing a political issue as a market, the problem is not merely *called* something else, but it is intensified by integrating it into the economic logic that causes it. What is more, now that nature conservation organizations are forced to move towards a more entrepreneurial kind of conservation, they are increasingly turning into, but also growing increasingly dependent on, businesses, such as visible in a quotation of the spokesman of the Veluwe Fund: “That is our motto: ‘Veluwe fund for the stimulation of economy and ecology’, and in that order, because if you would put it the other way around, there is no business that wants to talk to you”⁷.

By creating a habitat bank, I argue that the logic of doing what is considered to be appropriate is altered to a purely instrumental logic of doing what is individually best to do. I have noted in section 7.1.3 that habitat banking is about visibility. Visibility of a good deed, of a ‘green’ act, but it is also about invisibility, the invisibility of a bad deed, where the creation of a habitat is highlighted, while concealing negative externalities of production. Taking care of nature might then merely become a result of a consideration of possible reputational damage. An initiator of habitat banking notes that “[businesses] do not want reputational damage”, and if they are vulnerable to that, they might use habitat banking, if they are not “(...) then they won’t”¹. This does not at all stimulate moral considerations on biodiversity loss or reflections on the realization that it might not be acceptable what is undertaken, but frames care for nature as a mere social precondition for entrepreneurship, a matter of self-interest, the idea that the welfare of society benefits the business and not the other way around: that the business should benefit the welfare of society. Žižek (2009) calls this way of rendering ecological and social responsibility profitable, while admitting that the capitalist exploitation of nature is part of the problem “natural capitalism; one of the ultimate versions of what we may call post-modern ethical capitalism”. This post-modern ethical capitalism refers to an economic system based on ethical consumerism, where one can carry out ethically good deeds by (not) buying certain products, because the belief is held that consumer choice will then positively affect ‘good’ producers, while negatively affecting ‘bad’ ones by (not) buying their products.

If market parties have both power and a responsibility to conserve nature, and habitat banking tends to reframe conservation as an act of ethical consumption, is the role of civil society reframed to that of a collective of ethical consumers?

7.2.3. Civil society

The decentralization of nature policy, its deregulation and its eye for societal initiative theoretically offers possibilities to carry out nature management “closer to ‘the field’” (Gorissen et al., 2017, p. 23). It offers opportunities to act more on a local level, and there is argued that nature policy should focus not only on ecological qualities, but also should engage with economic and societal values of nature, both in- and outside of the protected areas. It is based on the view that societal interests in nature conservation reach beyond the mere protection of biodiversity (Gorissen et al., 2017). Gorissen et al.

(2017) note that “habitat banking offers businesses and individuals the possibility to satisfy their needs for development and freedom of action, this with respect for the values and interests of nature in their surroundings, based on the awareness of their influence on it (...). This will place citizens and businesses more in the role of (co-)owner, (co-)user and (co-)determinator” (p. 25).

The spokesman of the Veluwe Fund expressed the hope that habitat banking will create “emotional sense of ownership and responsibility” based on the rhetoric that “[t]his is my piece of land! I am not the owner, but I did contribute to it becoming the way it is now”⁷. Therefore, he argues, that a local character of habitat banking (“do it [habitat banking] on your *own* Veluwe”⁷) is desirable. This local character of habitat banking is controversial however. While one of the initiators argued that money spent on credits will “land everywhere in those compensation area’s”, another respondent noted that the “phenomenon can become area-based”⁷. There is noted, that it is likely that in the beginning “you cannot evade a like for like and a case by case approach”², but after proper institutionalization of habitat banking, “habitat banking itself looks for the optimal projects to be realized”⁷.

If the harbor of Rotterdam or Schiphol airport wants to do something, well, I don’t know if those people care, but maybe there is a manager that says: ‘Well, if we need to do it [compensate] anyway, I would like it to happen on Schiermonnikoog, or on the Veluwe, because I was born there’ or whatever, I don’t care what there considerations are, [but] if they don’t indicate that (...) the only guarantee that you have is that the value you bought is realized, and what, and where, on that you do not have any influence. With habitat banking in its purest form you do not have influence on that.⁷

It is questionable then if habitat banking leads to (co-)determination and (co-)ownership of citizens, because (at least in its fully institutionalized form) one does not know nor decide upon what area one invests in. The spokesman of the Nature and Environment Federation Gelderland notes, referring to citizen participation, that “maybe (...) local citizens can propose locations where nature could be compensated well. But they will probably want that to happen in their own municipality, and that does not fit habitat banking”⁴. The spokesman of Nature Monuments also notes that “if residents experience a serious infringement, it is likely that they want to be compensated for that in the neighborhood, but if that is not really the case it is fine to do it somewhere else”⁹. On the role of the citizen as a (co-)user there is noted:

You know, that credit metric is a job for ecologists, but you can imagine that, in the management and creation [of the area], you involve volunteers (...), especially in the case of less specific conservation goals, then it is definitely interesting to look what the role of citizens can be therein.⁴

Because habitat banking focuses on the green areas outside Natura 2000 and NNN, most of the areas that a habitat bank will own have conservation goals that are not as far as specific as for the protected areas, this indeed might offer room for experimentation in management with volunteers. There is given an example where a community executes the management of a meadow bird habitat, supported by government subsidies. Schaminée et al. (2013) indeed noted that for the sake of social acceptance, it is best to compensate near the site of damage. However, proximity is often considered less important as long as the ecological values are equal (Bugter, Vader & Van den Hoven, 2017). This is can also be clearly derived from the above and is in line with the literature on offsetting that often treats nature areas as if they are not spatially and socially grounded. “If you have a good habitat bank (...) rules should really not be too obstructive, but then it should particularly be about the extra nature value”⁶.

You have an oak-hornbeam forest (...) then you should make sure that it will be replaced by an oak-hornbeam forest (...) and preferably as near as possible. Well, those are two principles that are understandable. But you could also say: ‘Why should it be an oak-hornbeam forest again?’ If we have a terrain nearby that is suitable for the development of a higher species richness, shouldn’t we then look at the potential of that area? And that might be something completely different than an oak-hornbeam forest that is interesting too. So, I think, that if you start talking about replacement of nature that you... You can have a preference, but you should not adhere to it that strictly. Sometimes you need to do what is possible.⁷

The spokesman of Foundation for Residential and Recreational Interests notes that co-determination is crucial and states: “don’t let it be a discussion between specialists, let citizens understand it too, be verifiable in your argumentation. That is a problem in many cases”³. This conflicts, however with the general idea that habitat banking is not something for the general public. It is interesting now to cite a part of the interview in which I address the role of the public in habitat banking. I asked if the results of the calculations done with help of the metric are to be used as an opening for discussion:

*q ‘It is calculated that these two areas are theoretically similar, are you willing to accept this?’
Is that the idea?*

No. That might sound a little harsh, but then you will be asking permission all the time. The system is out there. (...)

q But the starting point is, then, that these values are not up for discussion.

The nature credit metric is not up for discussion. You got to have something to hold on to.

q But are we there yet [at the point where these values are not up for discussion]?

Yes, we are there yet, because we have that system. It is tested in the pilot; it is used elsewhere – so, yes.²

This again proves the point of habitat banking not being for the general public. What is more, it is not up for discussion as it is “out there”. This claim is based on *ipse dixit*, where the argument is distorted by opting out of it entirely and declaring the issue to be intrinsic or unchangeable. It asserts that it is *just how it is*. It is in line with the statement that habitat banking “(...) is just a mechanism, an instrument that should stay behind the scenes” and the addition that the public should only “start noticing (...) that businesses more and more often will be saying: ‘We compensate’”.

Habitat banking thus barely assigns civil society the role of (co-)owner, (co-)user and (co-)determinator. The sense of ownership is vague in a fully institutionalized form of habitat banking, as one is not sure how and where their bought credits manifest themselves as nature. It seems comparable to any act of ‘shopping to save the planet’, where one is not likely to feel him- or herself the (co-)owner of a forest after buying, for example, a pair of *etnies**. The exclusive character of the valuation, calculation and determination of where to develop nature, as habitat banking itself looks for the optimal projects to be realized, does not promote co-determination of citizens. They might gain a sense of being co-user if they involve in area management, which is possible in case of conservation goals that are not very concrete.

There is one task for civil society to execute that is considered crucial for habitat banking, and that is its support. It is related to the fact that habitat banking is a form of private rule making where its value is only real if it is acknowledged by many. Respondents agree upon the notion that trust is therefore deciding; a habitat bank should be coordinated by “confidence-building people”² and is successful if “broadly supported from many perspectives”¹⁰.

Trust is crucial. People need to have the feeling that they [habitat banks] are not working on making things easy for businesses, but on creating benefits for nature. (...) This means that in case of doubt, you have to be stricter, and have to reason for the sake of nature more than for the sake of business.¹

7.3. Discourses combined

Through discourse, the field of opportunities and the freedom of actors are reshaped. In the case of habitat banking, the redefinition of nature conservation as an economic problem leads to a transformation in the discursive landscape, thereby also affecting these opportunities and freedoms. Due to this political nature of discourse, discourses can also be regarded as locations of tension and

* *etnies* is a shoe production company; “etnies designed the *Buy a Shoe, Plant a Tree* project to be simple for you to get involved in international reforestation while you shop. If you choose to buy a pair of etnies shoes from our Buy a Shoe, Plant a Tree collection for men, women and kids, etnies will make a monetary donation to our not-for-profit partner Trees for the Future, who then has their expert field representatives in São Paulo, Brazil plant your tree to ensure that it grows properly” (retrieved from: <https://www.etnies.com/eu/buy-a-shoe-plant-a-tree/>)

struggle (Feindt & Oels, 2005). On the basis of the outlined substantive and governance discourse, what can be noted about these opportunities, freedoms, tensions and struggles?

The ambition to place nature at the heart of society by means of societalization is fueled by ideas of ‘a nature for everyone’, of inclusiveness and of a central role for nature in society as a whole. The recent governmental vision on nature contains pictures of children mesmerized by wild mushrooms or a left carcass, of tree-trimming neighbors, of flowering highway berms and of families wandering through forests and fields. Such enthusiasm on societalization must however not crowd out the attention for its risks (Van der Steen et al., 2013).

‘Societalization’ has turned out to be a very misleading concept. Although it links close to ‘social’, it has become clear that something can be called societal if it can manifest itself as able to follow the dominant path of economic growth – a development that actually requires an a-socialization of the object; and despite the fact that there can be found reasons for this commodification of nature that appear attractive in the first place (raising financial resources for nature conservation and development, creation of nature where it is ecologically relevant, creation of a language that is familiar to policy makers and market actors), the fact that discourse structures how reality is perceived and determines moral values indicates the risk that the instrumental and economically oriented language that habitat banking requires and reproduces, will create a nature that is stripped of personal commitments, narratives and constructs of connectedness with nature.

It is here where science fulfills an ideological function, as science is articulated *upon* knowledge (Foucault, 1972, p. 185). This means that it structures the objects it approaches, systematizes its enunciations and formalizes its concepts. It is thus not ideological at the level of those who have built up the knowledge, but rather in a whole field of discursive practices, where science modifies and redistributes knowledge on the one hand and confirms and validates it on the other. In this discursive field, it should not be about the dismissal of relativist statements about nature and their replacement by a universalist claim of the objective value of nature by science, or about “trying to discover what in knowledge still eludes and resists science” (Foucault, 1972, p. 185), because this does not avoid relativism, but hides it (Dingler, 2005). But if a government withdraws, and democratic procedures are absent, it is then hard to evade the law of the jungle (Van der Steen et al., 2013). In the twentieth century, it was the urban elite that became dominant; in the case of habitat banking, with current rule of economic discourse, these are market parties. Because objects are systematically shaped by discursive practices that speak of them (Foucault, 1972) it makes sense that economic definitions of nature become dominant in conservation and sustainability discourse. Then, with the good intention to at least do ‘something’ to halt biodiversity loss (it is about activity) habitat banking tames the wicked conservation problem by shaping it as a market – mainly by obscuring different forms of local (and sometimes ecological) knowledge. Remember that in section 4.3 I noted that the concept of ecosystem services was intended only as a communication tool to raise public interest in biodiversity conservation by using market metaphors (Norgaard, 2010), but over time, through

normalization of nature as an economic concept ('natural capital'), actual markets started to appear. Here it indeed becomes clear that science is not ideological at the level of those who have built up the knowledge, but becomes ideological when it crowds out other conceptualizations of nature, which happens on a more abstract level of discursive practices that formalize certain concepts and their use.

If we consider the discursive field I have aimed to outline above as a field of struggle and tension, it is no surprise that the main task of civil society is support of the dominant economic discourse that state and market are so familiar with and that habitat banking aims to further institutionalize. It is through this support that the formalization of concepts and their use becomes practice, thereby making the nature conservation as an economic issue more governable. If governance initiatives are a subject of resistance (or indifference) a problem is rendered less governable, but wide representation (of a community that supports the governance approach) enhances governability (Song et al., 2013).

The material effects of these discursive changes also have become visible. Conceptualizations of nature as a service provider offered, through great political support, opportunities for the establishment of habitat banking. By working with such an abstracted concept of nature, which is bounded by scientific possibilities and the extent to which one is willing to quantify it with an eye on tradability (nature is not replaceable, but species richness is; too complex calculations would drive potential users of habitat banking away) and practicality (ecological field surveys are too expensive), the nature that this conceptualization covers might not get lost, but the very material nature does disappear. So, one can claim a no net loss of nature that is only valuable from a very selective perspective. This misinformation can be used as a marketing instrument, thereby fueling and institutionalizing the twisted logic that economic growth and project developments that harm nature become responsible for the continued existence of the habitat bank. Next to production, consumption too is positively linked to conservation, assigning the consumption of credits as a ready-made product a central role in conservation. This harms the idea of a nature inclusive society, where nature is a central part of everyday life. This is due to the fact that few people have heart for nature only because it satisfies their needs or has intrinsic value. Preferences, principles, and virtues in relationships with nature all play important roles in making decisions. Natural values are then not in things, but in the relationship itself (Chan et al., 2016). Think of forms of cultural identity, social cohesion or forms of environmental stewardship, for example. Many authors therefore plea for a serious engagement with *relational values*, as a third class in nature values (Chan et al., 2016). Admiraal et al. (2017), for example, investigated individual motivations for conservation action in Belgium, Finland, Germany, Italy, the Netherlands, Slovenia and the United Kingdom. The four most important reasons to act where a willingness to learn from nature, a desire to live a good, meaningful and worthwhile life, a concern for, or a solidarity with, future generations and a belief that things have intrinsic value.

It can be concluded that people are willing to protect nature because 1) nature is meaningful in the lives of people and communities; 2) nature has its own right to exist; 3) nature brings with it many

socio-economic benefits (Chan et al., 2016; Admiraal et al., 2017; de Groot et al., 2016). But by sidelining 1) and 2) in favor of 3) a wide range of productive conceptualizations of nature is obscured, which will bring about material, tangible effects, by reshaping opportunities and freedoms of actors and the objects of which they speak.

8. Conclusion

The Dutch government intends to “(...) place nature at the heart of society” (Ministry of Economic Affairs, 2014, p. 7). This endeavor is based on the government’s vision that society is shaped by its people, not by its government. Therefore, the “government prefers to take people’s perception of nature as a point of departure” (p. 15). This research has shown that habitat banking is not the means to this end. Different discourses on nature and its conservation have been analyzed. From this analysis resulted that habitat banking reinforces and further institutionalizes a dominance of economic and scientific discourses in nature conservation over public discourses based on socio-cultural values of nature, and relational values with nature. It ignores links between people and nature and justifies this on the basis of these economic interests. This can be referred to as a process of societalization, but only because marketization forms an important part of it. Indeed, in the introduction I noted that ‘nature at the heart of society’ can also refer to “(...) an economy into which nature is sustainably woven” (Ministry of Economic Affairs, 2014, p. 6) or “(...) a matter of well-understood self-interest, not of an obligation imposed by governments” (p. 18).

This also implies that societalization is not necessarily democratic. Societalization is not about finding majorities and a decent handling of the interests of the weak, but it is about activity (Van der Steen et al., 2013). By societalizing (and especially marketizing) nature policy the traditional mechanisms of political negotiation are to some extent circumvented (Van der Steen et al., 2013). This has been noticeable in statements such as “[t]he nature credit metric is not up for discussion”², in the general idea that habitat banking is not something for the public and in the obscuring of their knowledge. From this articulation of economic and scientific forms of knowledge upon other forms of knowledge result power inequalities.

I have pointed out that policy concepts such as ‘biodiversity’ and ‘ecosystem services’ originated in science and noted that these concepts are not the ‘reality out there’ that needs to be uncovered by science, but discourses; results of discussion that have never led to an ultimate outcome but have become dominant in the discursive landscape over time, thereby also dominating over other conceptualizations. This also applies to ‘environment’. It was only after the Second World War that the term ‘environment’ found its way in ecological discourse (Escobar, 1996). It was the rapid post-war growth of industrial civilization that evoked an ecological consciousness and led to the reframing of ‘nature’ into ‘environment’. It encompasses a view of nature according to the urban-industrial system of that time, where everything that is relevant to its functioning becomes part of the ‘environment’.

What I am trying to make clear is that ‘objective’ narratives of environmental planning, its naturalized discourses, are not objective, but dominant assumptions about nature and its role in society. Escobar (1996) notes that “like the earlier scientific management of labor, the management of nature entails its capitalization, its treatment as commodity” (p. 328). Since his statement in 1996

serious attempts are undertaken to capitalize nature, as I have made clear with my analysis of habitat banking. And just like capitalized labor has become normalized, leaving the idea of a capitalized nature unchallenged might result, through normalization, in a discourse wherein ‘natural capital’ is assumed to be just as objective as ‘biodiversity’ or an ‘ecosystem service’. This is not only a history of further capitalization, but also of the advance of scientific discourses of modernity, which subjects more and more areas of life “to regulation by administrative apparatuses based on expert knowledge” (Escobar, 1996, p. 333). By institutionalizing habitat banking nature, one of the areas of life that has been defined by many respondents as not-culture, runs the risk of further losing that meaning.

Despite good intentions (“out of a need to do something to halt the loss of biodiversity”⁷) to make nature’s value visible by reframing it as a commodity, to give it a solid stand in political considerations, nature might actually find a central position in society by considering the relationship between people and nature. This puts the dominant economic discourse on its head by not valuing nature as an object, but by valuing the relationship with that object. This indeed harms the ideal of a tame problem with low transaction costs, but this will to keep transaction costs low blinds for the complexity not only of ecosystems, but also of the economic and political challenges that are inherent to nature conservation. This implies a need for the acceptance that conservation can be expensive and a need to stop acting as if *win-win* situations – most often in the shape of a coexistence of development and conservation – can always be found.

Indeed, the market-based approach to nature conservation of habitat banking might increase political activity by rendering the conservation problem more governable, but the value of this activity is nihil if it reinforces the risk of silencing more productive discourses and the institutionalization of a discourse that is very likely to be counterproductive for the conservation of nature on the long term, since moral considerations on biodiversity loss and reflections on a harmful handling of nature are crowded out by the logic that habitat banking provokes. It reframes care for nature as a mere social precondition for entrepreneurship and inverts the idea that business should benefit the welfare of society to one wherein societal welfare promotes business. The objectification of nature that this approach to nature conservation requires “both generates and reaffirms the positing of nature as an external reality vis-à-vis society” (Smith, 2007, p. 22). This means that habitat banking is not the means to place nature at the heart of society, but takes nature out of its heart.

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Appendix I

Interview guide in Dutch, English can be found below.

Representaties van natuur

- Hoe zou u ‘natuur’ definiëren?
- Is het bestaan van natuur belangrijk? Voor wie?
- Hoe belangrijk is natuur voor u? Wat voor rol speelt het bijvoorbeeld in uw dagelijks leven?
- Wat vindt u aantrekkelijke natuur?
- Hoe vindt u dat natuur gemanaged moet worden? Moet de manier waarop natuur nu gemanaged wordt veranderen?
- Is natuur kwetsbaar? *Werkt natuur naar een balans toe of is het altijd in beweging?*
- Is natuur vervangbaar? *Voor bijvoorbeeld andere natuur, geld?*
- Op deze **kaartjes** staan allerlei functies die de natuur vervult. Zou u voor mij deze kaartjes willen bekijken en de vijf belangrijkste functies van natuur aan kunnen wijzen?

Interactie met omgeving

- Kunt u me iets vertellen over [natuurgebieden waar de pilot habitatbanking heeft plaatsgevonden] (*terrein Haeghehorst en compensatiegebied Speuld; Poolschie Driessen en Havikerwaard*)?
- Wat is karakteristiek voor dit gebied? *Heeft u een favoriete plant, dier of plek?*
- Welke functies van dit gebied zijn volgens u belangrijk? U mag de **kaartjes** gebruiken.
- Gaat u wel eens naar dit gebied? Wat doet u dan in dit gebied? Hoe vaak gaat u erheen?
- Wat betekent dit gebied voor u?
- Beschouwt u dit gebied als vervangbaar?

Praktijkervaringen met habitat banking

- Kunt u me iets vertellen over de pilot habitat banking waar u bij betrokken bent?
- Waarom vindt deze ingreep plaats? *Waarom door middel van habitat banking? Wat is de meerwaarde van deze aanpak? Wat zijn / waren alternatieve opties bij deze ingreep?*
- Wie zijn er allemaal betrokken bij dit proces? Waarom zij?
- Hoe verloopt het proces van habitat banking? Wat loopt goed? Wat zijn struikelblokken?
- Is er draagvlak?
- Hoe wordt door lokale bevolking gereageerd op habitatbanking?
- In hoeverre wordt rekening gehouden met omwonenden in dit proces? Waarom in die mate?
- In hoeverre wordt er rekening gehouden met de verschillende waarden die mensen toekennen aan dit gebied? *Met een oog op vermaatschappelijking en draagvlak van natuurbeheer?*

- Wie bepaalt wanneer natuurcompensatie succesvol is? *Wanneer zijn twee gebieden 'gelijk', en wie bepaalt dit?*
- Zou dit anders moeten? Waarom?
- Is het haalbaar om deze verschillende waarden een plaats te geven in habitat banking?
- Er wordt vaak gezegd dat voor een optimaal resultaat van natuurcompensatie de principes van tijdigheid, gelijkwaardigheid en nabijheid dienen te gelden. In hoeverre worden deze principes gehanteerd? Waarom? Wat zijn de gevolgen?

Appendix II

Interview guide in English.

Images of nature

- How would you define 'nature'?
- Is the existence of nature important? To whom?
- How important is nature to you? What is the role of nature in your daily life?
- What do you consider attractive nature?
- How should nature be managed according to you? Should the current management of nature change?
- Is nature vulnerable? *Does nature work towards a balance or is it always in movement?*
- Is nature replaceable? *For other nature? For money?*
- On these cards are depicted all kinds of functions of nature. Could you pick the five most important functions according to you?

Interaction with the environment

- Could you tell me something about [the pilot areas of habitat banking] (*terrain Haeghehorst; Speuld; Poolschie Driessen and Havikerwaard*)?
- What is characteristic for these areas? Do you have a favorite plant, animal or spot?
- Which functions of these areas are important according to you? You may use the **cards**.
- Do you visit (one of) the area(s) sometimes? What do you do in that area then? How often?
- What does this area mean to you?
- Do you consider this area replaceable?

Practical experiences with habitat banking

- Could you tell me something about the pilot of habitat banking that you are involved with?
- Why does this intervention take place? *Why with habitat banking? What are the benefits of this approach? What is / were alternative options for this intervention?*

- Who are involved with habitat banking? Why they?
- How does the process of habitat banking proceed? What proceeds well? What are obstacles?
- Is there carrying capacity?
- How do local citizens react to habitat banking?
- To what extent are local citizens part of the process? Why to that extent?
- To what extent are different values people assign to nature part of habitat banking? *With an eye on the societalization of nature policy?*
- Who decides when nature compensation is successful? *When are two areas 'equal' and who decides upon this?*
- Should this be different? Why?
- It is feasible to integrate different valuations of nature into habitat banking?
- It is often said that the result of nature compensation is successful if the principles of timeliness, equality and proximity are fully applied. To what extent are these applied? What are the consequences?

