

# GOLF AND NATURE ON A PAR?- THE 'NEW CONSERVATION' IN PRACTICE

A STUDY INTO PROPOSED GOLF COURSE DEVELOPMENTS IN PROTECTED  
AREAS: THE CASES OF COUL LINKS (SCOTLAND) AND DE HOGE DUINEN  
(THE NETHERLANDS)



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## LIST OF ABBREVIATIONS

EC:	European Commission
IROPI:	Imperative Reasons of Overriding Public Interest
RSPB:	Royal Society for the Protection of Birds
SBB:	Staatsbosbeheer (Dutch Forestry Commission)
SEPA:	Scottish Environmental Protection Agency (statutory body)
SNGT:	Stichting Natuurgolfbaan Terschelling (Foundation Nature Golf Course Terschelling)
SNH:	Scottish Natural Heritage (statutory body)
SAC:	Special Area of Conservation (EU Habitats Directive conservation designation)
SPA:	Special Protection Area (EU Birds Directive conservation designation)
SSSI:	Site of Special Scientific Interest (UK nature conservation designation)
TIGLS:	Trump International Golf Links Scotland

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## ABSTRACT

This research studies two proposals for golf course developments in protected areas, Coul Links (Scotland) and De Hoge Duinen (The Netherlands). It aims to explore the process of balancing socio-economic and nature conservation interests, as well as perceptions of golf courses' nature conservation potential. These research aims are underpinned by a theoretical framework which draws from fundamental ideas about nature and its relation to humans, trends in European conservation policy, and the relation between golf and nature. The primary method of data collection was qualitative interviews, which were conducted with representatives of developers, and environmental, governmental and community organisations involved in the proposals. The findings contribute to a better understanding of the fundamental values that underpin conservation policy trends such as 'no net loss'/'biodiversity net gain' and biodiversity offsetting, and more broadly to the role that nature conservation plays in modern society. The research is also of value from a golf industry perspective, as it provides insights into how golf course development can accommodate nature conservation and social interests, for example through cooperative planning, low-impact construction, and multi-functionality.

Keywords: biodiversity offsetting, compensation, Coul Links, golf, golf course development, Hoge Duinen, mitigation, Natura 2000, nature conservation, new conservation, protected areas.



# 1 INTRODUCTION

This research explores golf course development in protected areas through the study of two proposals: Coul Links in Scotland and De Hoge Duinen in the Netherlands. This introductory chapter begins by explaining the background to the study, after which the research aims are stated. The third section discusses the relevance of this study to academia and practice, followed by a brief clarification of the scope of the research. The final section of the chapter briefly sets out the structure of the remainder of this work.

## 1.1 Background

Europe has the world's most extensive nature conservation network, Natura 2000, covering 18% of its land mass. The aim of the network is to conserve biodiversity, while at the same time ensuring the sustainability of human activities (Tsiafouli et al, 2013). This means that protected areas are not necessarily free from human activity. Rather, in many cases a balance must be sought between nature conservation and social and economic interests. To find this balance, it has become increasingly felt that nature conservation should not be a strictly top-down, preventive activity, but that a variety of stakeholders should cooperate to plan and co-manage protected areas (Kamphorst et al, 2017). In practice this means that there is room for both public and private parties to propose developments within protected areas. These are required to achieve 'no net loss' of habitat and biodiversity by including measures to compensate for unavoidable impacts, which is regarded as a fair trade-off between nature and socio-economic development (Schoukens & Cliquet, 2016).

Although this human-centred style of 'new conservation' has become increasingly popular in Europe, it is not without its critics. Schoukens & Cliquet (2016) point out that firstly, the effectiveness of compensation measures such as creation or restoration of habitat is often limited in practice, and, secondly, nature conservation is not necessarily meant to be either cost-efficient or even popular. Furthermore, Europe finds itself in a biodiversity crisis, and compensation is regarded as an excuse to allow economic development to continue, while doing nothing to address the core issues of biodiversity loss (Friends of the Earth, 2014). The question then is whether the current trend of balancing human development and nature conservation interests can truly lead to a just, desirable, and sustainable outcome for protected areas.

This research studies this issue with regards specifically to the development of golf courses. Golf forms an interesting topic because of its ambivalent relationship with nature and the environment. On the one hand, golf courses are unnatural, man-made environments, much criticised for their negative environmental impacts, including habitat destruction, excessive water consumption and the use of damaging chemicals for maintenance. On the other hand, golf is inherently linked to nature. Varied natural surroundings add to the sport's challenge and interest, and to its enjoyment. Courses can also provide important habitat for biodiversity. Large out-of-play areas (40-70%) are rarely disturbed by golfers, providing significant potential for habitat creation, restoration and management (Tanner & Gange, 2005).

Golf is the world's leading sport in terms of economic expenditure, and golf tourism and high-end golf course development are large global industries "structured around directing flows of golfers to particular turfgrass landscapes" (Wheeler & Nauright, 2006; Jönsson, 2016, p. 575). Therefore, economic interests often take precedence over nature conservation, and previous golf course developments in protected areas have been highly controversial. A prime example is Trump International Golf Links Scotland (TIGLS), which was granted permission to develop a protected dune system near Aberdeen, leading to public outcry and golf coming to occupy "an important place in debates on Scottish planning policy" (Arts & Maffey, 2013; Jönsson, 2016, p. 1). However, parts of the



golf industry have embraced sustainability, and concern for nature in course development has grown (GEO Foundation, 2017). If a positive outcome for habitat and biodiversity can be achieved, golf courses could offer a win-win situation in terms of socio-economic considerations and nature conservation.

## 1.2 Research aims

Two research aims have been formulated to explore golf course development in protected areas. Each aim is divided into several research questions, of which there are seven in total. These are accompanied by assumptions, which are designed support a clear interpretation of the research questions and the findings in chapter 5.

**Research aim 1: To explore the process of balancing nature conservation and socio-economic interests in golf course development in protected areas.**

*1.1. To what extent is nature conservation a consideration in the location and design of golf courses?*

Assumption: Nature conservation is a consideration, but is secondary to demands for the standard of the golf course.

*1.2. To what extent is the future ecological management of golf courses a consideration during the planning process?*

Assumption: Developers are likely to prioritise short-term environmental concerns to acquire planning permission.

*1.3. How are the economic and environmental interests of various stakeholders reflected in golf course development in protected areas?*

Assumption: A conflict of interests is likely between economic benefits and nature conservation.

**Research aim 2: To explore perceptions of the potential nature conservation value of golf courses.**

*2.1 How are varying perceptions of nature, and its relation to humans, reflected in the planning process for golf courses in protected areas?*

Assumption: Golf course development reflects a human-centred perception of nature.

*2.2 How is the potential of golf course development to achieve biodiversity net gain perceived?*

Assumption: This depends on the value ascribed to the idea of 'biodiversity net gain' and the ecological sensitivity of the site.

*2.3 To what extent can golf course development be consolidated with nature conservation policy and legislation?*

Assumption: Golf course development does not fit into a strictly preventive nature conservation.

*2.4 To what extent is golf course development in protected areas influenced by public opinion and social perceptions of golf?*

Assumption: Golf's elitist reputation is likely to negatively influence perceptions of golf courses in protected areas.

### 1.3 Research relevance

This study is positioned at the juncture of two contemporary and controversial topics. Firstly, it offers insight into the meaning and role of nature conservation in modern society, particularly its relation to human activity. As conservation policy has become less restrictive and human development in protected areas increasingly common, academic and societal discourse has arisen regarding fundamental perceptions of nature and its relation to humans. Although this study does not contribute normatively to this debate, it offers explorative insights into its practical manifestations. Through the in-depth study of two proposed developments in protected areas, further understanding is developed of the perceptions and values that determine how socio-economic and nature conservation interests are balanced. The study also relates the planning processes to European nature conservation legislation and discusses whether its fundamental preventive principles can be consolidated with the trend towards increasingly human-centred conservation and policies like ‘no net loss’.

Secondly, this research contributes to a better understanding of how golf course development relates to nature conservation. Golf’s environmental merits have been the subject of significant societal and academic scrutiny and although the industry has made strides, there is still a need for more sustainable development practices. This study does not explicitly aim to set out good practice guidance, but it nevertheless identifies ideas about how golf and nature can be combined. Particularly the Hoge Duinen case informs a better understanding of how golf course development can achieve environmental and social goals, through for example cooperative planning, habitat creation, and site multi-functionality.

Because this research deals with two active proposals, which are still in the planning stage at the time of writing, the issues discussed are per definition highly contemporary. Furthermore, it provides insight into actors’ perceptions and values *during* the planning and decision-making process, which cannot be replicated in a retrospective study. This study offers a unique insight into the perceptions and values that influence how the fate of protected areas is decided.

### 1.4 Research scope

Firstly, it is important to note that this research does not aim to pass judgement on or draw any definitive conclusions about either the legal or ethical merits of golf course development in protected areas. Rather, it aims to explore perceptions, values and ideas about what golf courses can mean for nature and protected areas. Secondly, while in many cases, new golf courses are combined with residential and hospitality developments, often in the form of ‘golf resorts’, the focus of this research is the golf course itself. Thirdly, the cases discussed in this research are in the UK and the Netherlands. Golf course development elsewhere may pose environmental challenges which this research does not address (e.g. water scarcity in arid regions or unregulated habitat destruction).

### 1.5 Thesis structure

Chapter 2 discusses the concepts and theories that underpin this research, including fundamental ideas about nature and its relation to humans, trends in European conservation policy, and the relation between golf and nature. Chapter 3 discusses the methodology used in this research, including how the cases were selected and how data was collected and analysed. The chapter also critically reflects on the methodological choices. The fourth chapter provides a brief, descriptive overview of the two proposals that were studied, after which chapter 5 presents the findings of the research, in the form of a discussion which draws from both cases to answer the research questions. Finally, chapter 6 presents the study’s conclusions and several recommendations for further research and practice. The chapter also reflects on limitations of the study and on the research process.

## 2 THEORETICAL FRAMEWORK

This chapter reviews the existing body of knowledge on the concepts and themes that are of importance to this research. The opening section takes a broad approach, introducing the context in which nature conservation takes place in the modern world, and contrasting the anthropocentric and eco-centric perceptions that underpin it. The second section narrows down the focus and deals specifically with the approach to conservation that is current in the EU, where the protection of nature is strongly entwined with human interests. There follows a section discussing golf's ambivalent relation with the environment and explaining why the sport's inherent link with nature makes it of interest to the interface between human activity and nature conservation.

### 2.1 Nature conservation in the 21<sup>st</sup> century

This section introduces the context for modern nature conservation. It starts with a discussion of mankind's destructive impact on earth's biodiversity, followed by a sub-section on opposing eco-centric and anthropocentric perceptions of nature's fundamental value.

#### 2.1.1 Facing the sixth extinction

The concept of nature conservation first arose in the United States towards the end of the 19th century. Pioneering naturalists such as John Muir and Henry David Thoreau helped inspire the creation of the world's first nature reserve, Yellowstone National Park, in 1872 (Wilson, 2016). Nowadays, the idea of conservation is widespread, and most countries have designated areas where habitats and biodiversity are protected. Nevertheless, conservationists have not yet managed to curb the severe decline of earth's biodiversity that has been occurring since the dawn of humankind. Extinction is a natural part of evolution, in fact, over 99% of species that have lived during 3.8 billion years of life on earth are extinct (Wilson, 2016). Normally, there is time for doomed species to adapt and evolve into new ones, but occasionally, the conditions of life change drastically and (relatively) suddenly, leading to a mass extinction, in which species that had gradually adapted to their environment have no chance of survival. While under normal circumstances the metaphorical 'tree of life' may occasionally lose a twig, "during a mass extinction, vast swathes of the tree are cut short, as if attacked by crazed, axe-wielding madmen" (Benton, 2008, p. 23).

Many naturalists agree that we are witnessing a 'sixth extinction', with effects on biodiversity similar to the fifth great extinction, which wiped out the dinosaurs 65 million years ago. This time the cause is not a meteor strike, but a series of gradual, destructive processes brought about by human beings (Kolbert, 2014). The most significant human impacts on earth's biodiversity can be summarised in the acronym 'HIPPO': habitat destruction, invasive species, pollution, population increase, and over-harvesting (Kopnina, 2016; Wilson, 2016). Industrialisation and globalisation have exacerbated these issues, leading to unprecedented rates of biodiversity loss. According to the WWF's 'Living Planet Index' populations of vertebrate species have dropped by 52% since 1970 (WWF, 2014). A quarter of all mammals are estimated to be headed irrevocably towards extinction, along with a sixth of all birds, a fifth of all reptiles, a third of sharks and rays, and a third of all corals and molluscs. Amphibians are most sensitive to change, putting them at the greatest risk. Their normal 'background rate' of extinction is around one species every 1000 years, but they are currently dying out at around 45 species per year (Kolbert, 2014).

Many scientists agree that earth has entered the 'Anthropocene', a new geological epoch defined by humankind's profound dominance and impact on the planet (e.g. Crutzen, 2006; Zalasiewicz et al, 2017). This has raised questions regarding humans' moral obligations, or lack thereof, towards the rest of life on earth, which have important implications for conservation, as discussed in the following sub-section.

### 2.1.2 Perceptions of nature: eco-centrism and the ‘new conservation’

Nature conservation legislation, policies and activities are founded in the value attributed to nature by humans. However, perceptions vary, and this section discusses an important distinction between eco-centric and anthropocentric approaches to nature.

Eco-centrists are inclined towards a top-down restrictive approach to conservation, placing the intrinsic value of nature first, and leaving little room for human activity in protected areas (Kopnina et al, 2018). Anthropocentrism, on the other hand, focusses on the benefits that nature provides to humans. Soulé (2013) criticises this anthropocentric approach, which he calls it the ‘new conservation’: socio-economic development and nature conservation going hand in hand. Conservationists who take this viewpoint to an extreme believe that there is no real wilderness anymore, that humans have destroyed nature to the extent that it is beyond repair and that earth will unavoidably become completely dominated by humankind. As Emma Marris (2013, p.2) puts it in the introduction her controversial book ‘Rambunctious gardens: Saving nature in a post-wild world’: *“We are already running the whole earth, whether we admit it or not. To run it consciously and effectively, we must admit our role and even embrace it. We must temper our romantic notion of untrammelled wilderness, and find room next to it for the more nuanced notion of a global, half-wild, rambunctious garden, tended by us.”*

Although not always taken to such extremes, the ‘new conservation’ has become increasingly prevalent in discourse and policy. Illustrative of this trend is the growing use of policy tools aimed at incorporating nature into decision-making processes by quantifying its value to humans. For example, popularisation of the concept of ‘natural capital’, the world’s stock of natural assets, and the quantification and valuation of the ‘ecosystem services’ it provides (Albert et al, 2014). Monetary valuation, aimed at reducing nature’s ‘economic invisibility’ (Cohn, 2012), is a particularly contentious approach, with eco-centric opponents arguing it reduces nature to an exploitable commodity (Monbiot, 2014). Human-centrism is also apparent in ‘no net loss’ policies, which are discussed further in section 2.2.

As the anthropocentric approach has become more prevalent, eco-centrists have begun to contest it. In his much-acclaimed book ‘Half-Earth’, biologist Edward Wilson (2016) fervently defends eco-centrism, and presents a proposal to save biodiversity by dedicating at least half of the earth entirely to conservation. Wilson’s main point, summarised by Cafara et al (2017), is that it is morally wrong for humans to drive other species to extinction, and therefore habitat loss and degradation, should be stemmed by increasing the extent of protected areas, since the availability of habitat is directly linked to biodiversity rates. Currently, 10 to 15 percent of the world’s surface falls under conservation protection, which, according to Wilson’s calculations, will allow for the survival of about half of earth’s species. By increasing the protected area to half of the earth’s terrestrial and marine areas, over 80% of species should survive, and even more should the protected half contain all ‘biodiversity hotspots’ (Wilson, 2016). Many conservationists have joined the ‘nature needs half’ movement, which calls for a return to the eco-centric origins of conservation, and a significant expansion of both terrestrial and marine areas under strict protection (e.g. Cafara et al 2017; Kopnina et al, 2017; Kopnina et al, 2018; Soulé, 2013).

Kopnina (2016) identifies four main arguments put forward by anthropocentrically minded social scientists and conservation biologists against increasing strictly protected conservation areas. (1) An important concern is that designating nature conservation areas can lead to the displacement of vulnerable, often indigenous, human communities. Büscher and Fletcher (2016, p. 1) express this in rather strong terms, referring to the ‘nature needs half’ movement as “a global programme of conservation *Lebensraum*”. (2) Separating humans and nature creates a ‘false dichotomy’, since humankind has always been part of, and reliant on, nature. It is generally accepted that the survival of humankind depends on the integrity of the earth’s biosphere and ecosystems, which has led to policies

aimed at safeguarding 'ecosystem services'. On the other hand however, given the rapid rate of technological advance that humans have proved capable of "it is not inconceivable that we might in due course devise artificial systems that mimic the functionality of ecological systems, making natural ecologies superfluous" (Mathews, 2013, p. 1). If such a situation were to arise, the dichotomy between mankind and nature would become very real. (3) It is also felt that eco-centric conservationists unfairly put the blame for biodiversity loss on all humankind, while most damage is done by a small proportion. (4) Finally, social justice advocates argue that population growth is in fact not the cause of biodiversity loss. Kopnina (2016) goes on to refute these arguments, stating that they represent a notion of justice which is purely human-oriented and neglects 'ecological justice'.

In short, anthropocentric conservation revolves around nature's 'functional value' (its use to humans), while anthropocentrism focusses on intrinsic value (nature's value irrespective of its use) (Van den Born et al, 2001). This distinction is sometimes summed up in a simple question: Nature for humans, or humans for nature?

## 2.2 European nature conservation: policies and trends

This section discusses the most important issues regarding nature conservation in Europe. The first section provides an overview of recent developments in EU conservation policy. This is followed by a section about the principles and policies that govern human development in protected areas. The final section focuses on a specific policy trends that is gaining influence on the management of Natura 2000 sites, namely 'biodiversity offsetting' measures, aimed at achieving 'no net loss' or even 'net biodiversity gain'.

### 2.2.1 The state of European nature conservation

The main legislative foundation of EU nature conservation is the 1992 Habitats Directive. In combination with the 1979 Birds Directive, it requires member states to designate protected sites, called Special Areas of Conservation (SACs) under the Habitats Directive, or Special Protection Areas (SPAs) under the Birds Directive. These form the Natura 2000 network, the centrepiece of European nature conservation, and the world's largest coordinated network of protected areas, covering 18% of the EU's landmass and 6% of its marine territory. The management and regulation of such a large conservation network has proven to be complex and is the subject of political and scientific debate.

In 2010, the EU published a Biodiversity Baseline report, concluding that 25% of animal species faced extinction, and that 65% of important habitats had an unfavourable conservation status (EU, 2010). A year later, in response to these findings, the 'EU Biodiversity Strategy to 2020' was adopted. Its headline target is to 'halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restore them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss' (EC, 2011). But in 2015, the 'European Environment – State and Outlook Report' concluded that biodiversity loss and the degradation of ecosystem services had continued largely unaffected (EEA, 2015). In its mid-term report on the Biodiversity Strategy, the EC states that ensuring effective management of the Natura 2000 network remains a key obstacle to curbing the loss of habitats and species in the EU (EC, 2015). Managing the network is complicated by the fact that this responsibility lies with the individual member states. Although there are many regulations, there is no standardised EU-wide process for how to manage protected areas.

### 2.2.2 Human development and the mitigation hierarchy

In 1976 Harvey Molotch published a paper which has given rise to an extensive literature on the 'urban growth machine'. In it he argues that localities will always seek intensification of land use, in order to compete with other areas for the investment of 'growth-inducing resources' (Molotch, 1976). Although the growth machine theory is relatively old, the basic idea has stood the test of time. Local governments

are attracted to economic intensification, meaning that low-intensity land uses, such as nature conservation, are likely to come under threat of development. This is an issue faced throughout Europe, and the policies and principles governing socio-economic development in protected areas are an ongoing source of discussion.

Designating an area as large as Natura 2000 for nature conservation in a highly populated and developed region unavoidably leads to conflicts with human interests, and it is explicitly stated that, besides conserving biodiversity, the goal of the network is to ensure the sustainability of human activities (Tsiafouli et al, 2013). According to anthropocentrists, there is increasing evidence that environmental policies treating social and ecological systems as separate entities have been ineffective, and that Natura 2000 sites are not about conserving islands of wilderness but rather about co-managing biologically diverse landscapes where humans constitute an integral part (Rauschmayer et al, 2009). Tsiafouli et al (2013) analysed human activity in over fourteen thousand Natura 2000 sites and found that agriculture is most common, occurring in 69% sites. Other common activities include hunting, fishing, and forestry, but of particular interest to this research is the significant presence of leisure and tourism activities, in 42,7% of the studied sites. According to Ciapala et al (2014, p. 59) tourism and recreation are an “inherent element of human influence on biodiverse areas”, and therefore should be considered in the planning and management of protected areas. Tourism can lead to financial benefit to local communities (Tzanopoulos et al, 2011), and contribute to funding conservation (Dharmaratne et al, 2000), but it can also be controversial, with concerns about possible disturbance of nature (Pickering & Hill, 2007).

Articles 6(3) and (4) of the Habitats Directive describe the precise procedure for proposed developments in Natura 2000 sites (EC, 2017). Before any project can be carried out, an ‘appropriate assessment’ must determine whether it is likely to have a significant adverse effect on the conservation objectives of the site. If there is any uncertainty concerning the effect of a proposed development, the ‘precautionary principle’ applies, and plans should not be allowed to go ahead. Thus, development may proceed only if there is conclusive evidence that it will not adversely affect the integrity of the protected area and its conservation objectives (Schoukens & Cliquet, 2016). However, a project may proceed despite having a negative effect, if it meets three conditions. Firstly, the development must be necessary for ‘imperative reasons of overriding public interest’ (IROPI). Secondly, there must be no alternative possibilities. Thirdly, the negative impacts of the development must be remediated according to the mitigation hierarchy.

The mitigation hierarchy consists of four broad steps, to be followed sequentially, the goal being to achieve either ‘no net loss’, or even ‘net gain’, of biodiversity (Arlidge et al, 2018). Figure 1 illustrates how with each step, the negative impact is reduced, until it has been entirely remediated. The first step is to avoid negative impacts, for example by staying away from a site’s most sensitive areas. Secondly, impact must be minimised through for example responsible construction methods. The third step is to restore damage ‘within the footprint of the development’, for example by reseedling damaged areas. The fourth and final step, which must only be applied once the first three steps have been exhausted, is to ‘offset’ (or ‘compensate’) remaining impacts elsewhere.

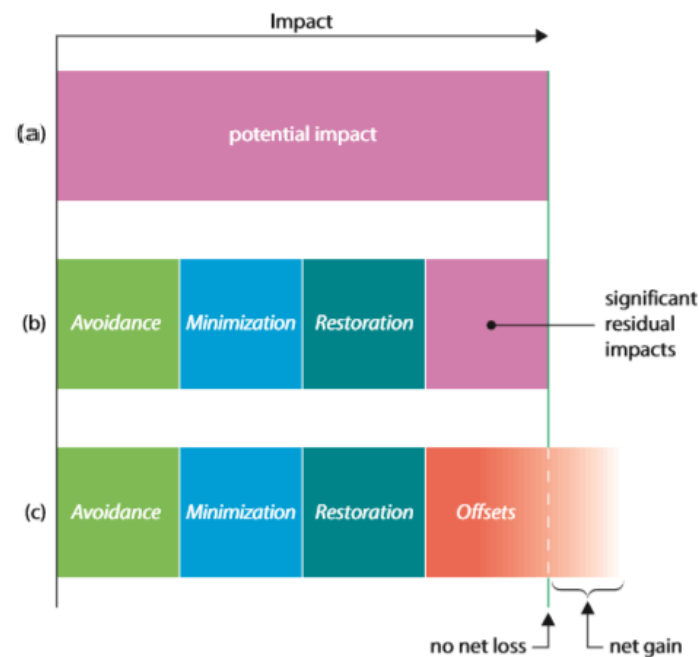


Figure 1: Application of mitigation hierarchy components (Source: CSBI, 2015, p. 12).

In theory, European nature conservation is fundamentally preventive, and severe restrictions apply to developments in Natura 2000 sites. In practice however, very few plans are refused on the basis of nature conservation rules (Schoukens & Cliquet, 2016). There are two reasons for this. Firstly, compliance with the procedural and substantive requirements of the Habitats Directive is lacking in many cases, and many plans are not subjected to an appropriate assessment. Secondly, even if the correct procedures are applied in the planning process, they are often regarded as formalities, and thus have no significant impact on the decision-making process (Wandesforde-Smith & Watts, 2014). The following section discusses an important procedural debate, regarding the increased use of offsetting measures to legitimise development. In theory, offsetting should only be applied as a final resort, but as the European Commission (quoted in Georgoulis, 2015, p. 24) recognises, ensuring compliance with the mitigation hierarchy is challenging: “A major area of contention is that while the mitigation hierarchy is applied as a theoretical principle, some doubts remain about practical implementation in some cases. [...] Determining how far to pursue each step in the hierarchy before moving on is therefore a critical decision process for practitioners.”

### 2.2.3 Biodiversity offsetting and ‘no net loss’

The final step of the mitigation hierarchy is to compensate for unavoidable on-site impacts on the environment through offsetting measures. Since the 1970’s, the general concept that developers should compensate for damage they cause has been included in much environmental legislation (Boisvert et al, 2013), but in recent years it has taken on a new form, as the idea of ‘biodiversity offsetting’ has gained traction, becoming one of the most prominent approaches towards balancing interests in socio-economic development and nature conservation (Gordon et al, 2015; Schoukens & Cliquet, 2016). Maron et al (2012, p. 141) define it as “compensating for losses of biodiversity at an impact site by generating ecologically equivalent gains elsewhere”. Biodiversity offsetting has the goal of achieving ‘no net loss’ in terms of “species composition, habitat structure, ecosystem functions, and people’s use and cultural values associated with biodiversity” (BBOP, 2009, p. 4). Any loss of ecological value must be quantified and compensated for by habitat creation or restoration elsewhere. Some instruments go



beyond the 'no net loss' principle, striving for an overall positive impact, or 'net gain' of biodiversity (Bull et al, 2013). Offsetting appears to be a rational way to deal with conflicts between economic development and nature conservation. Certainly, as Boisvert et al (2013) point out, biodiversity offsetting appeals to policy makers because it fits within a rational, market-based frame of reference, reflecting virtues of efficiency and effectiveness. However, many conservationist and ecologists have argued against offsetting as a means of protecting biodiversity, citing both ideological and scientific reasons for its unsuitability.

Perhaps the most controversial aspect of biodiversity offsetting is its ideological implications. From an eco-centric perspective, the idea of 'no net loss' is per definition a fallacy. Assuming that nature has intrinsic value, and the right to be protected, 'loss' occurs as soon as any damage is done, and despite any compensatory measures that might be taken. Therefore, the notion that humans may freely interfere with nature, as long as it is replicated elsewhere, aggravates many conservationists (Carter, 2007). It would seem then, that offsetting must be placed firmly on the anthropocentric side of conservation, but even then, issues can be raised with the idea. A significant concern is that biodiversity offsetting allows for 'business as usual' in terms of economic development and does nothing to tackle the actual causes of biodiversity loss. According to Friends of the Earth (2014, p. 4) biodiversity offsetting can be a "distraction from other, real solutions, or even an excuse not to implement them". Carrington (2013) describes offsetting as a 'license to trash nature', a popular tagline among ecologists and activists who are concerned that offsets form an excuse for damaging developments to go ahead. Certainly, the principle of offsetting does nothing to discourage the dominant, neoliberal mode of production which is regarded as an important driver of global biodiversity loss. On the contrary, it grants a certain amount of leeway to damaging socio-economic development (Friends of the Earth, 2014; Schoukens & Cliquet, 2016).

Besides ideological issues, the scientific evidence for the effectiveness of biodiversity offsetting is also contested. Maron et al (2012) performed a review of literature published in restoration ecology, a relatively young discipline concerned with the outcomes of habitat restoration and (re)creation. They raise concerns for the high expectations placed by policy makers on the results of biodiversity offsetting and conclude that these expectations are not supported by scientific evidence. Restoration ecologists' reservations about offsetting fall into three categories. Firstly, it is hard to accurately define, measure and quantify the value of biodiversity that is being offset. Secondly, the effectiveness of restoration techniques is uncertain. Thirdly, a great deal of time often passes between the planning phase and the completion of mature habitats, often decades or even centuries. Curran et al (2014) studied the effectiveness of biodiversity offsetting in over 108 locations, and similarly conclude that there is no evidence that offsetting practices lead to no net loss of biodiversity. Other authors have also cast doubt upon the scientific basis for biodiversity offsetting policies (Morris et al, 2006; Palmer & Filoso, 2009; Virah-Sawmy et al, 2014). Particularly the quantification of natural value, measured through simplified indicators, is much criticised, for example by Palmer and Filoso (2009, p. 575): *"The assumptions that simple proxies, like habitat descriptors, can be used to evaluate restoration success and that single ecological measures, like biodiversity, can be used to evaluate a full suite or "bundle" of ecosystem processes are not only naïve but have been demonstrated to be false for many ecosystems"*.

A pragmatic counterargument to this point revolves around the concept of 'additionality'. Its proponents recognise the uncertainty involved in quantifying nature and ensuring 'no net loss' but maintain that biodiversity offsets need only achieve at least some sort of result to be worthwhile, because any positive contribution is an 'additionality' for biodiversity compared to a situation in which no offsetting measures are taken. This argument relies heavily on the assumption that offsetting is only relevant as a last resort in cases where damage is unavoidable. Although this logic of 'additionality' is

hard to argue with, there is as yet no coherent policy approach to biodiversity offsetting in place, and it is questionable whether its applications are truly always as a 'last resort'. In some cases in the EU, developers have claimed onsite biodiversity offsets as mitigation measures, thus claiming that they reduce damage. But the European Court of Justice has ruled that offsetting cannot be used in such a manner, and that, even though various EU environmental legislation allows for the use of compensatory measures, a preventive approach must still be taken whenever possible (Schoukens & Cliquet, 2016). According to the European Commission no-net-loss working group it is *"vital that any EU no-net-loss initiative anchors compensation/offsetting into a strict and systematic mitigation hierarchy"*. [...] The first objective should be to try and avoid or prevent negative impacts. Where this is impossible, damage should be minimised and restoration attempted. Compensation or offsetting should be a last resort." (EC, 2016, p. 1).

Biodiversity offsetting is at the same time promising and controversial. Its attraction lies in potentially achieving nature conservation goals and economic development in tandem, while controversy stems from having to accept ecological losses, which are ideological debatable, and uncertainty over the effectiveness of the methods used for offsetting (Bull et al, 2013). Furthermore, there are concerns that offsetting is used as an excuse to bypass the procedural requirements of nature conservation legislation, and avoid any hindrance to economic development.

## 2.3 Golf and nature conservation

Golf courses form an interesting example of the relation between human development and nature conservation. According to Wilson and Millington (2016, p. 910) golf can exemplify "how government's, even with an ostensible commitment to sustainability in place, can still give approval to environmentally impactful development projects", putting Molotch's (1976) growth machine in mind, and the ever-present allure of land-use intensification. On the other hand, golf courses are green spaces, and at least to a certain extent, natural. This section discusses golf's relation to nature conservation, starting with a broad introduction to golf's environmental issues, followed by a more specific discussion golf courses' impacts on biodiversity and habitats. The final section explores the economic and social impacts of golf course development, including land-use justice issues.

### 2.3.1 Golf and the environment: a strenuous relationship

Over the years, golf has come under criticism from environmentalists for a variety of reasons. One significant problem is the water consumption required by courses to maintain lush, green turf. Especially in arid regions where the sport is popular, such as the southwestern United States and Australia, water usage is a controversial issue. For example, California has over a thousand golf courses, using up to 2 billion gallons of water each day (Ryan, 2014). This issue has been compounded by the growing popularity of Mediterranean golf resorts. The number of courses in Spain grew from 89 in 1990 to 437 in 2014, putting a severe strain on water, but also soil and energy (Briassoulis, 2007; Ciurana et al, 2015). Another environmental concern is the application of chemicals such as insecticides, herbicides and fungicides, which serve to preserve the quality of the turf and protect it from disease. These chemicals can potentially cause health threats to humans and animals, and can pollute groundwater, runoff water, soil and air, leading to a variety of detrimental effects (Arcury-Quandt et al, 2011; Jones, 2015; Krčmář et al, 2014).

According to Millington and Wilson (2015) the golf industry has gone through three distinct 'environmental turns'. In golf's early days, courses were shaped by the natural environment, but when golf took off in North America in the early 20<sup>th</sup> century, course designers began to take a more precise, scientific approach, shaping the land to their will. This represents golf's first environmental 'turn', one of scientific rationalisation and controllability of the environment. The second 'turn' is characterised by

human 'exceptionalism', the idea that humans are unique, and thus exempt from natural constraints (Foster, 2012). Advancements in maintenance technology and chemicals in the post-war years meant that many of the restraints nature had placed on golf courses were lifted, giving the golf industry the feeling of complete control over nature. Particularly newly developed pesticides, fungicides and herbicides were put to unbridled use, and maintenance practices became increasingly mechanised, occasionally going as far as chemical application by helicopter (Millington & Wilson, 2015). But as environmentalism gained widespread societal attention in the '70s, the golf industry came under pressure to clean up its act, and attitudes now gradually shifted towards the concept of environmental stewardship. During this third 'turn' the golf industry began to position itself as environmentally friendly, a marked shift from its previous exceptionalist stance. The changes that occurred in the golf industry at this time are strongly linked to the idea of 'ecological modernization' (EM), which proposes that (economic) development and environmentalism are mutually beneficial. The golf industry took the position that an increasing awareness of its environmental impacts would lead to innovation in maintenance that would simultaneously protect the environment and improve economic efficiency.

Critics of this EM trend in golf have expressed concerns that it is primarily politically motivated, and serves to protect the golf industry from the imposition of more far-reaching environmental alternatives (Millington & Wilson, 2015). From this point of view, golf is part of a 'green capitalist tradition', in which concern is evinced for environmental issues, but actual measures lack substance and are designed to relieve pressure from environmentalists, politicians or the general public (Ewing, 2017). In an analysis of the Golf Course Superintendents Association of America's environmental development, Millington and Wilson (2013) find that the organisation developed a 'strategic environmentalism' throughout the second half of the 20<sup>th</sup> century, involving "refining management practices, creating educational programs, and the communication of environmental sensibilities through government and public relations strategies" (p. 467). However, in contrast to the outward show of environmentalism, it was internally recognised that the (formal) environmental education of golf course staff was severely lacking, as was the development of environmental best practices. This seems to indicate that at least some degree of 'greenwashing' has occurred in the golf industry, to protect it from "more radical environmental alternatives" (Millington & Wilson, 2015, p. 37).

However, certainly recently, there does seem to have been a growth in genuine environmentalism and sustainability in the golf industry. Over 200 courses worldwide have gained an internationally recognised sustainability certification, and several have achieved a new certification specifically for new developments (GEO Foundation, 2016). Furthermore, some courses have truly put their environmental responsibilities first, such as chemical-free ecological and organic courses (Whitten, 2008; Shields 2010). These trends may indicate that golf is experiencing a 'fourth environmental turn', in which environmental concerns are becoming increasingly integrated into industry practice.

### 2.3.2 Biodiversity impacts of golf courses

The section on nature conservation ideologies introduced the acronym HIPPO for the most destructive impacts mankind is causing on biodiversity: Habitat destruction, invasive species, pollution, population increase, and over-harvesting (Kolbert, 2014; Wilson, 2016). It is interesting to note golf's potential contribution to these phenomena. There is no significant link between golf courses and over-harvesting or population increase. However, golf courses can certainly have an impact in terms of habitat, invasive species, and pollution, as discussed below.

Firstly, golf course development often has a destructive effect on habitat, primarily to make room for the main playing areas (tees, greens and fairways), which consist of intensively maintained turf. On the other hand, the remaining out-of-play areas, typically 40 to 70 percent of a golf course, need not be disrupted during development, and are rarely disturbed by players, and thus can provide valuable

habitat (Tanner & Gange, 2005). However, courses' conservation value is highly dependent on their design and management (Colding & Folke, 2009), leading to debate about how courses can affect biodiversity, natural habitat, and ecosystem services. The type of land that surrounds the course, and on which it is built, is of great importance. The potential of golf courses to provide habitat is high in urban and suburban areas, where courses can be "islands of biodiversity, surrounded by cars and concrete" (Goldman, 2014, p. 1). Colding & Folke (2009) performed 17 case studies to assess the ecological value of golf courses and found that they showed higher value than surrounding residential and urban land, and in fact also than agricultural and park land. Furthermore, Terman (1997) found that 'naturalistic' golf courses, those with substantial amounts of native wildlife habitat in out-of-play areas, can have the same species richness as nearby natural areas. Large areas of natural habitat also have the added benefit of reducing maintenance inputs (e.g. irrigation, chemicals and mowing) and the potential to engage golfers in habitat preservation (ibid).

Golf courses can have both a positive and a negative influence on the effect of invasive species on biodiversity. Developing a golf course involves creating significant areas of maintained turf. Garrison et al (2009) studied the survival of several turfgrass species on two disused golf courses in the USA, to determine the species' invasive potential once maintenance practices on the golf course had ceased. In neither case did turfgrass become dominant and establish a monoculture, but was replaced largely by native flora. However, the introduction of exotic non-native species of plants for aesthetic purposes can pose a threat to existing ecosystems, although, on the other hand, golf courses can also play a role in controlling invasive species through maintenance practices (Jarrett & Shackleton, 2017).

Finally, pollution from chemicals used for golf course maintenance can potentially impact biodiversity and habitats. In the distant past, golf courses were shaped by the existing landscape and largely unmaintained by humans. But over time, golfers have come to expect lush, manicured turf, which requires the input of agrochemicals. Besides potential long term health risks to golf course maintenance employees (Arcury-Quandt et al, 2011), chemicals employed in golf course maintenance can potentially cause significant damage to ecosystems by polluting the air, soil, and water (Jones, 2015; Krčmář et al, 2014).

### 2.3.3 Socio-spatial justice and multi-functional golf courses

As previously discussed, leisure and tourism activities are common in protected areas, but while for example walking or cycling have only very minor impacts on the environment, golf requires large amounts of green space. This can lead to socio-spatial justice issues, which this section discusses.

Perkins et al (2010, p. 268) point out that golf is an interesting topic of study because of "its stereotypically conservative image; its sometimes explicit and other times more insidious sexist, racist and ableist norms; its strongly class-associated practices; and its links to global business interests." This is in part why local resistance to golf development is often strong. The elitist reputation of golf is further exacerbated by the fact that many new developments are not just golf courses, but luxury resorts, accompanied by upmarket residential development and luxury tourist facilities (Briassoulis, 2010). Opposition to golf developments is further inspired by the large amount of land that they require, and the denial of this green space to the public, leading to socio-spatial justice issues. Briassoulis (2010) explored the motivation of signees to a petition against a proposed golf course on Crete, and found that socio-spatial justice was an important element. One respondent commented that "golf is the symbol of disparity in land use", with another saying that "golf courses are some of the most wasteful and inegalitarian uses of land in the world. They are, in effect, the global economy's expanded and legitimated equivalent of the private estates and extensive but exclusive hunting grounds of premodern aristocracies" (p. 300).

Clearly golf's social merits are the subject of criticism, but others argue that golf has the potential to contribute to communities and wellbeing. Besides the recreational and social benefits of playing golf, the sport can also lead to wealth creation, employment and health benefits (Markwick, 2000). There is evidence that being in a green or landscaped environment provides mental health benefits such as reduced stress, improved attention capacity, and behavioural changes that improve mood and general well-being (Velarde et al, 2007). However, it is socially undesirable if only the privileged can enjoy these benefits due to the exclusive nature of golf courses. An idea that has developed in the golf industry over recent years is that of the 'multi-functional golf course'. Multi-functionality can include ecosystem services that courses provide, but also recreational activities besides golf, such as walking, cycling and horseback riding, although safety issues must be considered in design (Wissman et al, 2016). Multiple uses are a growing consideration in the golf industry, and tools have been developed to assess the multi-functional potential of courses (STERF, 2014). This trend is likely to continue, as multi-functionality has the potential to reduce the socio-spatial justice issues caused by golf courses and their development (Casperson et al, 2014).

### 3 METHODOLOGY

This chapter explains, justifies and critically reflects on the methodology used to achieve the research aims. It begins with a brief discussion of the social constructionist and interpretive philosophies that underpin the research, followed by a justification of the chosen case study research design, and how the two cases, proposed golf courses at Coul Links (Scotland) and De Hoge Duinen (The Netherlands), were selected. The methods section then discusses how semi-structured interviews, supplemented by documentary analysis, were used to collect data, and how this data was analysed. Thereafter, the chapter concludes with sections on the limitations of the employed methodology, and the ethical considerations the research required.

#### 3.1 Research philosophy

This research takes a social constructivist ontological approach. In contrast to objectivism, which assumes the existence of an independent social reality, that can be objectively uncovered, social constructionism holds that social reality is subjective, and created and continually revised by social actors and their activities (Bryman, 2012). Individual actor's interpretations of the value of nature and the relation between humans and nature are central to this research. Each respondent's personal experiences and situation determine their perception of reality, which means that there are multiple 'truths'. Therefore, an interpretivist epistemology underpins this research and the author acknowledges that it does not present an objective and definitive account of social reality, but rather one specific version of it (Bryman, 2012). Interpretivism also acknowledges the influence of the researcher's social reality, in contrast to the positivist idea of the researcher observing reality entirely objectively through cause and effect (May, 2011). As such, the author acknowledges that his personal values and interests regarding golf and nature conservation influence the research's portrayal of social reality. As a final note, this does not mean that the research does not aspire to objectivity. Objectivity does not necessarily mean complete freedom from any personal values, but is itself a value, which a researcher may aspire to, while simultaneously recognising the influence of personal values, interests and thoughts (Williams, 2016).

#### 3.2 Case study research design

A multiple-case study research design was used to study two proposed golf course developments, focussing on the complexity and particular nature of the two cases in question, with an emphasis on the 'intensive examination of the setting' (Bryman, 2012, p. 67). Case studies are highly suitable for exploratory research such as this, because their in-depth nature is useful for producing background information regarding complex issues to which the solution is unclear (ibid; Gustafsson, 2017). Furthermore, Yin (2009), recommends case studies when the focus is a contemporary phenomenon with real-life context, which is certainly relevant to proposed golf course developments.

The decision to study two cases is aimed at achieving a balance between in-depth exploration and analytical generalisability. Single-case studies allow for the most intensive analysis and thus a high quality of theoretical reasoning (Bryman, 2012). However, studying multiple cases avoids 'putting all your eggs in one basket', and offers the analytical advantage of comparison, making findings more robust (Yin, 2009). This research does not aim to achieve an in-depth understanding of a single unique or rare case, but to explore issues that may be more widely applicable to (golf course) development in protected areas. Therefore, a multiple-case design is best suited. But at the same time, each development is unique, and a relatively intensive understanding of the context is important, so a limited number of cases is desirable.

An alternative approach might have been a cross-sectional research design, sampling multiple developments and for example surveying a large group of relevant actors (Yin, 2009). According to

Bryman (2012) the differences between the two designs can be subtle, but the defining distinction is that 'the case is an object of interest within its own right' (p. 68), whereas in cross-sectional sampling the 'object of interest' is the entire population. This research does not aim to draw conclusions that apply directly to all golf course developments in protected areas (i.e. 'the entire population'). Rather, through the intensive study of two unique developments, it attempts to contribute to theories and ideas that may be more widely applicable to nature conservation and golf course development. Therefore, the more in-depth character of a case study design is desirable.

A lack of external validity, or generalisability of results, is often used as an argument against the robustness of case study research, compared to for example cross-sectional research designs (Yin, 2013). Therefore, as noted, it is important to recognise that this research cannot directly draw broadly applicable conclusions. Nevertheless, some sort of generalisation is certainly possible, namely through 'analytical generalisation', in which, through theoretical analysis, findings are related to existing theories and concepts that have a wider applicability than the studied cases (Bryman, 2012). Analytical generalisation can lead to contributions to theory, and practice, such as the scaling up of effective and desirable practices and the transfer of valuable lessons from one context to another (Yin, 2013).

### 3.3 Case selection

The two cases studies in this research, Coul Links and De Hoge Duinen, were selected from a 'bounded system' (Simons, 2009), defined as 'proposed golf course developments in Natura 2000 sites'. Both courses are sited, at least partly, in Natura 2000 sites, and therefore are contemporary examples of the balancing act between human development and nature conservation, and the use of 'biodiversity net gain' to legitimise development in a protected area. Both are current proposals, not completed golf courses. Initially, completed developments were also considered for study. However, it was decided that current planning proposals would give a better insight into the perceptions and values that influence the planning and decision-making process, rather than an exploration of the outcome, and furthermore, that the study would benefit from limiting the number of cases, allowing for a more in-depth and rigorous analysis. The Coul Links and Hoge Duinen presented themselves as prime candidates for study. Practical considerations also influenced their selection, including the availability of sufficient information, the absence of a language barrier, and the familiarity of the author with the national contexts.

Crucially, besides meeting the conditions set for case selection, the Coul Links and Hoge Duinen cases also present opportunities for analytical comparison. There are two main ways of using multiple cases (Yin, 2009). In 'direct replication' common case characteristics allow for more powerful conclusions to be drawn if similarities are found. However, the cases studied in this research were of interest due to specific differences, which were expected to be relevant. Therefore, they allow hypothesised contrasts between two situations to be tested, which is called 'theoretical replication' (ibid). The differences between the two cases which were expected to be relevant are shown in Table 1. Firstly, the ecological characteristics of the sites are very different, Coul Links being more sensitive. Secondly, different types of organisations are behind the proposals. While Coul Links is under private ownership and proposed development, the Hoge Duinen site is owned by the Dutch Forestry Commission (SBB), who are a partner in the proposal. Thirdly, the intended golf courses are of a different calibre. Although both aim to attract tourists, Hoge Duinen has a more local, small-scale character, whereas Coul Links is intended to be a world-class golf tourist destination. Chapter 4 provides a more elaborate description of the cases, offering more context regarding their differences.



Table 1: Key difference between the two cases (Source: author).

	De Hoge Duinen	Coul Links
Site ecological value and characteristics	Relatively low: Primarily planted species-poor pine forest on old sand dunes.	Relatively high: Rare dune habitat, high biodiversity of flora and invertebrates, important site for nesting and migratory birds.
Site ownership and developing organisation(s)	Public owners (SBB) partnering with local golf club (SNGT)	Private land owner and private developers
Course type and target audience	9-hole 'nature golf course' for Terschelling golf club members and tourists.	'World-class' 18-hole championship course, primarily aimed at American golf tourists.

### 3.4 Data collection

Qualitative data collection methods are most suited to case study research, because they can generate the necessary in-depth information (Yin, 2009; Bryman, 2012). The primary method employed in this research is semi-structured interviews, this was supplemented by documentary analysis to increase the validity of the results. The following two sub-sections discuss how the methods were used to collect data.

#### 3.4.1 Semi-structured interviews

Qualitative interviews fit well with the research's focus on the perceptions and values that influence the planning process, because they can help to "understand the world from the subjects' point of view, to unfold the meaning of their experiences, to uncover their lived world prior to scientific explanations" (Brinkmann & Kvale, 2009, p. 1). To achieve a complete understanding of the cases, selective sampling was used to reach a variety of respondents representing different perspectives. Organisations involved in the proposed developments were explored and grouped into four broad categories: developers and golf industry, environmental organisations, governmental organisations, and community organisations. Table 2 gives an overview of the respondents, showing that a good balance was achieved between the categories and between cases. However, it is important to note that this categorisation is simplified, because many of the organisations relate to multiple categories (i.e. SBB and SNH are both governmental *and* environmental organisations).

Table 2: Interviewed organisations by case and category (Source: author).

Organisation category	De Hoge Duinen	Coul Links	Total
Developers and golf industry	SNGT ( <i>Foundation Nature Golf Course Terschelling</i> ) (RAGC) <sup>1</sup>	Coul Links Ltd (RAGC)	3
Environmental	NL Adviseurs	GEO Foundation RSPB Scotland	3
Governmental	Terschelling Municipality Staatsbosbeheer (SBB, Dutch Forestry Commission)	SNH	3
Community	SOS Terschelling	Not Coul Embo Trust	3
			12

<sup>1</sup> The interview with the Royal Aberdeen Golf Club course manager did not relate to one particular case, but provided useful information about the impact of golf course maintenance and management practices.

The interviews were semi-structured, allowing a good degree of flexibility in the conversation, so that initial answers could be followed-up spontaneously, and relevant information was not missed (Dawson, 2009; Babbie, 2013). Fully structured (quantitative) interviews would not have fitted within the broad research approach, because they provide less opportunity for in-depth investigation and an understanding of “how the interviewee frames and understand issues and events” (Bryman, 2012, p. 471). On the other hand, completely unstructured interviews were undesirable, because a certain consistency in topics was necessary to facilitate the comparability of the data (ibid). Therefore, an interview guide (see Appendix A) was prepared beforehand, incorporating important topics, although it did not function as a rigid template. It was structured around themes (the site, the planning process, nature conservation, and socio-economic impacts), rather than the research questions, the assumption being that this would lead to a more natural conversation. The opening questions about the site are relatively simple, to ease the respondent into the interview. From there, the interviewer allowed the conversation to run a relatively natural course, while prompting the respondents for relevant information where necessary. In general, the entire research guide was covered, but in some cases, certain topics were not of relevance to the respondent, and these were not discussed.

Table 3 offers an overview of the 12 interviews, including the role of the individual respondents within the organisation they represent. The interviews were conducted over a 3-week period from the end of April until mid-May. The second week of this period was spent in Scotland, and the third on Terschelling, so that interviews could be conducted face-to-face, allowing for the most natural interaction (Gillham, 2003). However, due to practicalities not all interviews could be planned on location, and two were conducted by phone. Besides the opportunity to interview respondents in person, being at Coul Links and on Terschelling allowed the author to observe the proposed development sites and their surroundings. Although this by no means constituted a structured form of observatory research, it led to a more in-depth understanding of the context of both proposals than would otherwise have been possible and contributed to the quality and validity of the findings of this research.

*Table 3: Overview of conducted interviews (Source: author).*

Case	Organisation	Role	Date	Location (face to face) or by phone	Approximate length
De Hoge Duinen	SNGT ( <i>Foundation Nature Golf Course Terschelling</i> )	Member of the Terschelling Golf Club and the advisory board of SNGT, the project initiators. Home owner on Terschelling for 30 years.	25 April 2018	The Hague, NL	1,5 hours
	Terschelling Municipality	Policy Officer for planning and the environment, involved with the Hoge Duinen project since its inception.	7 May 2018	Terschelling, NL	40 minutes
	Staatsbosbeheer (SBB, Dutch Forestry Commission)	Forest ranger on Terschelling and PR officer.	8 May 2018	Terschelling, NL	1 hour
	SOS Terschelling	Chairman of the local interest group aimed at	9 May 2018	Terschelling, NL	80 minutes

		preserving the authenticity of the island.			
	NL Adviseurs	Project Manager at an ecological management consultancy, responsible for the Site Development Plan and involved in the Management Plan	14 May 2018	Velp, NL	1 hour
Coul Links	GEO Foundation	Programme Director Golf Development at an NGO working in sustainability in golf.	23 April 2018	By phone	40 minutes
	Coul Links Ltd (developers)	Project Manager with over 30 years' experience developing golf courses, including 12 years at Castle Stuart near Inverness. Coul Links is his 15 <sup>th</sup> project.	1 May 2018	Embo, Scotland	80 minutes
	Embo Trust	Director of the local community trust and local Ward Councillor on the Highland Council for East Sutherland and Edderton.	1 May 2018	Embo, Scotland	1 hour
	Not Coul	Chairman of local opposition group 'Not Coul' and ecologist specialised in dune habitats, who has surveyed over 90% of Scotland's dune systems. Previously the lead ecologists at Trump International Golf Links Scotland.	2 May 2018	Embo, Scotland	2 hours
	RPSB Scotland	Senior Conservation Planner at a conservation NGO, advises on planning issue across Scotland and coordinates the NGO campaign against Coul Links.	4 May 2018	Edinburgh, Scotland	70 minutes
	Scottish Natural Heritage (SNH)	Area Operations Officer for SNH Northern Isles and North Highlands. As a statutory body SNH is responsible for providing official advice on the proposal.	10 May 2018	By phone	30 minutes
General	Royal Aberdeen Golf Club	Course manager, golf course maintenance expert with over 20 years of experience.	30 April 2018	Aberdeen, Scotland	1 hour

### 3.4.2 Documentary analysis

The findings of this research rely primarily on data collected from the interviews, in keeping with the focus on subjective perceptions and values. Nevertheless, it is important to cross-check findings using multiple research methods ('triangulation'), to increase the validity of the results (Bryman, 2012). Therefore, documentary sources of data were used to supplement the information gained from the interviews. Table 4 shows the various documents that were referred to throughout the research process. The documents helped to form a better understanding of the two cases in the initial stages of the research and were used where necessary during the analysis stage to check details, fact, and figures and to confirm and build on statements made in the interviews.

It is important to note that, although it had initially been the plan, due to time constraints, the documents were not subjected to structured or replicable data collection and analysis, i.e. no coding scheme was used to organise the data. Documents were searched for key words, but not in a structured and consistent manner. Therefore, although information from the documents contributed to the research findings, this must be regarded as supplementary to the thorough analysis of the interviews, discussed below.

*Table 4: Overview of documentary data sources (Source: author).*

Case	Document Type	Author / Publishing Organisation	Year of publication	Title
Coul Links	Planning Application	Coul Links Ltd	2017	17/04601/FUL (Highland Council reference)
	Ecological report	Alba Ecology Ltd	2017	Biodiversity Net Gain at Coul Links
	Environmental statement	STRI (Sport Turfgrass Research Institute)	2017	Coul Links Proposed Golf Development – Environmental Statement
	Response to Environmental Statement	Not Coul	2017	A very poor environmental statement: the evidence – Not Coul Factsheet 1
	Economic Impact Report	Westbrook, S. (commissioned by Not Coul)	2017	Coul Links Economic Impact – A report for Not Coul
	Online article	Baraniuk, C., for <i>Verge</i> , 16 January	2018	The billionaire vs the fly – a proposed golf course is pitting Scottish ecologists against American billionaires
Hoge Duinen	Coalition Agreement	Terschelling Municipality	2014	Terschelling houdt koers – Coalitieakkoord 2014-2018
	Letter to Terschelling Municipality	Staatsbosbeheer (SBB)	2016a	Letter expressing intention to cooperate in the development of a golf course on Terschelling.
	Natura 2000 Management Plan	Staatsbosbeheer (SBB)	2016b	Natura 2000 beheerplan Terschelling (4)
	Financial Plan	Natuurgolfbaan Hoge Duinen Terschelling B. V.	2017	Financieel meerjarenplan Natuurgolfbaan de Hoge Duinen Terschelling

	Site development plan	NL Adviseurs	2017	Inrichtings- en natuurontwikkelingsplan de Hoge Duinen
	Newspaper Article	Speleers, B. in <i>Trouw</i> , 31 October	2017	De noodzaak van een Natuurgolfbaan op Terschelling
	Ecological assessment	Zumkehr Ecologisch Adviesbureau	2017	De aanleg van een duurzame Natuurgolfbaan op Terschelling, een voortoets.

### 3.5 Data analysis

The first essential step in qualitative data analysis is coding, the sorting of data into relevant component parts (Bryman, 2012). The coding strategy used was based on a grounded theory approach and involved reviewing the interview notes and identifying themes and topics that seemed to be of “potential theoretical significance or that appeared to be particularly salient within the social worlds of those being studied” (ibid, p. 568). Crucially, the data was not fitted into a preconceived coding scheme, rather, as the data was analysed codes began to emerge based on recurring themes and topics. Through a fluid process of assessment of the data and revision of the codes a final coding scheme was determined, based on three main themes: golf and the environment, nature conservation in practice, and actors and interests (see Annex B). At this point, the relevant information from all the interviews was grouped into the sub-themes of the coding schemes. This informed several minor changes to the research questions, before the last step of the analysis, reporting the results of the analysis, was performed, resulting in the findings and discussion in chapter 5.

### 3.6 Limitations

The foremost limitation of the applied research methodology is that the reliability and validity of the results are restricted due to a reliance primarily on data from interviews. Although this was supplemented by documentary analysis (and observation), a more extensive use of multiple qualitative research methods and triangulation would have significantly strengthened the research (Bryman, 2012). The validity of the research could also have been increased using a mixed methods approach, including quantitative methods, such as a survey to measure planning practitioners’ views on development in protected areas or more general (local) public opinion on golf course development. This would have led to a wider perspective, which could have complemented the in-depth nature of this research. However, this was beyond the practical scope of this study and has been included as a recommendation for further research.

Further, although selective sampling resulted in a good variety of interviewees, some organisations that have played important roles in the two cases are nevertheless not amongst the respondents, including the Highland Council, the Scottish Environmental Protection Agency (SEPA), and Friesland Province. This is due in part to non-response, but also to time constraints. For practical reasons, only a limited amount of time could be spent conducting interviews in the field. Furthermore, at a certain point data collection had to be finalised to leave sufficient time for analysis and writing. Considering the research methodology’s heavy reliance on interviews and in-depth exploration, it would have been desirable to interview all relevant parties if possible.

Other limitations relate to, firstly, the choice of research design. External validity, or generalisability, is often cited as a weakness of case studies (Yin, 2009). This has been mitigated by using multiple cases and analytical generalisation. Secondly, the research focuses on active proposals, which contributes to

its uniqueness and relevance, but also means that the replicability of the study is low, since the precise context in which the data was collected cannot be retrospectively recreated.

### 3.7 Ethical considerations

Both cases under study are proposals for developments which are still in the planning phase and are potentially controversial. Particularly the Coul Links proposal has provoked strong emotions, for example, several participants have received threats of personal violence. The developers of both projects expressed concern that this research might generate damaging publicity. The interests in the outcome of these planning processes are significant, which makes for interesting study, but also means that information shared by participants is sensitive and must be treated as such. A prime concern of the author is that this research does not aim to pass judgement or sway opinion regarding whether either proposal should be allowed to go ahead. Therefore, the author has sought to conduct this research without bias, and with honesty and integrity, to protect the rights of individuals involved and encourage a positive climate for future research (Hay, 2016). It is particularly important to avoid any ethical issues arising, such as harm to participants, lack of informed consent, invasion of privacy and deception (Bryman, 2012).

All participants were informed about the research and its aims and given the opportunity to consider whether to participate. Consent was requested to record interviews. This was refused on several occasions, owing to the sensitive nature of the topic and concerns about the misuse of the recordings. The recordings of the other interviews remain confidential. Participants were able to review a draft version of the research before finalisation, to identify any misinterpretations or falsities in the data, and retained the right to withdraw information at any point during the research. Finally, ethical approval for the research was gained from the supervising institution, Cardiff University (see Appendix C).

## 4 CASE CONTEXTS

This chapter offers important background information about the proposed golf course developments studied in this research. A section is dedicated to each case, starting with De Hoge Duinen, followed by Coul Links. Figure 2 gives an orientating idea of the locations of the cases.

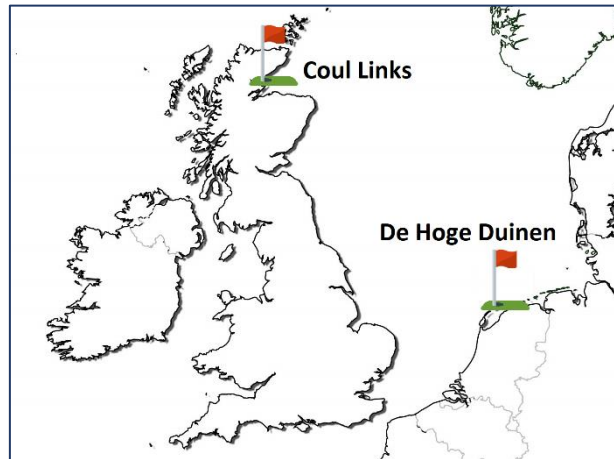


Figure 2: The locations of the two cases in north-west Europe  
(Source: author).

### 4.1 De Hoge Duinen (Terschelling, The Netherlands)

Terschelling is one of the Dutch *Wadden Islands*. It has a population of about five thousand and an economy which is largely dependent on tourism. The entire island is part of *Wadden Sea* UNESCO World Heritage site, which contains the world's largest system of intertidal sand and mud flats and is of importance to many marine mammals and migratory birds. Furthermore, 80% of the island is designated under the Natura 2000 site *Dunes Terschelling*, which protects rare species of grass, heath, and moss, and dune slacks, which provide valuable habitat for migratory birds (SBB, 2016b).

'Gebiedsontwikkeling De Hoge Duinen' (*Area Development The High Dunes*) is a proposal for a 9-hole 'nature golf course' to the north-east of the main town on the island, West-Terschelling. The initiator of the plan is the Stichting Natuur Golfbaan Terschelling (SNGT, *Foundation Nature Golf Course Terschelling*), consisting of members of the Terschelling Golf Club, which has over 200 members, but no course of its own. Staatsbosbeheer (SBB, National Forestry Commission), who are a partner in the proposal, believe it will achieve environmental gain, and will retain ownership of the 42-hectare site, most of which is Natura 2000. 27 hectares of planted pine forest will be removed and replaced with newly created 'grey dune' and heath habitats and the golf course, construction of which is subject to environmental restrictions imposed by SBB (e.g. no earth reshaping, fairways from native vegetation). Furthermore, golf is framed as the 'fourth use' of the site, besides walking, cycling, and horse riding.





*Figure 3: Heath and dune habitat on Terschelling, with the forested proposed development site in the background (Source: author).*

The golf course aims to serve the needs of local golfers and will not be exploited for profit, but it is also expected to attract significant numbers of golf tourists, which will benefit the island's tourism sector. The developers have received 50 thousand euros from both the Terschelling municipality and the province of Friesland for further development of the plan. Currently, further financing is being sought from local businesses through a crowdfunding programme, and an application has been made to the *Waddenfonds*, a fund for regional development. The province of Friesland must decide whether the plan is acceptable according to Dutch nature conservation legislation, before an application can be made to Terschelling Municipality.

#### 4.2 Coul Links (Embo, Scotland)

Coul Links is a stretch of dune habitat on the Moray Firth coast in the Scottish Highlands, lying directly beside the village of Embo, which has a population of about 300, and one small community shop, run by volunteers (Figure 4). Embo is about 4 kilometres north of Dornoch (approximate population 1200), and the nearest city is Inverness, 70 kilometres to the south.



*Figure 4: The Embo community shop and football field with Coul links in the background (Source: author).*

Two American businessmen, golf course developer Mike Keiser and Todd Warnock, have proposed to develop an 18-hole golf course on Coul Links, designed by the highly reputable course architects Coore and Crenshaw. The aim is to create a world-class course with the reputation to attract American golf tourists. Golf originated in 15<sup>th</sup> century Scotland, making it a prime destination for golf travel (Sochaczewski, 2016). A study commissioned by VisitScotland found that golf tourists generate 286 million pounds a year for Scotland, support 4,700 jobs, and spend an average of 338 pounds a night, four times the expenditure of a typical tourist (VisitScotland, 2016). Although there are over 500 courses in Scotland, visitors are generally interested in playing the most famous and reputable ones. Coul links is only a few kilometres north of Royal Dornoch, which is regarded as one of Scotland's finest courses, but its location in the Highlands, over 300 kilometres from Scotland's main airports,

is rather isolated compared to many famous courses, as illustrated by Figure 5. The developers predict that the addition of another top golf course will encourage more tourists to travel to the area, leading to a significant economic spin-off. They project the Coul Links development will directly and indirectly create 250 jobs and generate over 8 million pounds gross added value to the economy in its tenth year, particularly because it will not include any residential development or hotels, thus creating opportunities for hospitality businesses in the area (Westbrook, 2017).

The development's potential economic benefits have led to significant support amongst local government, business, and community, but there is also strong opposition to the proposal, primarily because much of the proposed development site is designated as a UK Site of Special Scientific Interest (SSI), EU Special Protection Area (SPA) and international Ramsar wetland. Six environmental NGOs are campaigning together against the proposal, as is local protest group 'Not Coul'. RSPB (2017) describes the site as 'one of the last areas of undisturbed species-rich dune habitat in Scotland'.



*Figure 5: Map of the most famous golf courses in Scotland. Coul Links is only 4 kilometres from Royal Dornoch (Source: Golf Resource, 2018).*



*Figure 6: Coul links viewed from the south (Source: author).*

At the time of writing, the Coul Links proposal has been submitted to the Highland Council and is awaiting decision. The statutory body Scottish Natural Heritage has objected to the proposal, based on its impact on protected dune habitat. Refusal has also been advised by Highland Council planning officers. In a meeting on the 5<sup>th</sup> of June 2018 the Highland Council deferred the decision on the planning application, to allow more time to appraise objections (BBC, 2018). As such, at the time of writing, the fate of Coul Links remains undecided, although no councillors voiced any objection to the proposal (BBC, 2018).

## 5 FINDINGS AND DISCUSSION

This chapter presents the findings of the research in two sections, which each cover a research aim. The sub-sections relate to the seven research questions, presented in section 1.2. The discussion draws from both the Coul Links and Hoge Duinen cases and makes comparisons where relevant.

### 5.1 Planning golf courses: nature conservation and socio-economic interests

This section discusses how nature and human interests are balanced in the planning processes for Coul Links and the Hoge Duinen (research aim 1). It comprises three sub-section, the first of which discusses how the location and design of the golf courses reflect this balance. Thereafter, the long-term implications of the proposals are explored. The final sub-section discusses a fundamental conflict between environmental and economic concerns.

#### 5.1.1 Location and design (question 1.1)

The potential impact of golf course development on habitat and biodiversity is largely dependent on the existing characteristics of the site. This section discusses how nature conservation interests have influenced the site choice and design of the Coul Links and Hoge Duinen proposals.

A primary concern for golf course developers is the natural beauty of a site and its surroundings, and its potential to create an appealing setting for golf. According to the Project Manager at Coul Links, the dune habitat is central to plans for a world-class golf course. Besides offering a stunning backdrop, it will give the feeling of a traditional Scottish links course immediately after construction, which will attract the target audience, American tourists. But the reason the site is of interest to the developers is also why it is of importance to conservationists. This conflict of interest is the core reason for the contentious nature of the proposal. Environmental organisations, including RSPB and GEO Foundation, suggested locating the course on farmland adjacent to Coul Links, and creating artificial dunes. The chairman of 'Not Coul' said the local opposition group would not have existed if this option had been chosen. However, the Coul Links Project Manager explained that building the course elsewhere is not an option, because it would undermine the core objective of creating a world-class, authentic links golf course in the area. As GEO Foundation's programme director of golf development put it, the developers are interested in creating a "blockbuster golf course" and nothing less, which in this case means the location of Coul Links is not open for discussion, despite environmental issues.

Besides the visual appeal, choosing a suitable site for golf course development can significantly reduce design and construction requirements. Both environmentalists and golf industry professionals agreed that the best sites present themselves almost naturally as golf courses. The course is 'already there' and a trained eye can imagine the holes in the landscape. On such a site, the impact of course construction is minimal, largely because it is unnecessary to move large amount of earth to create interesting and challenging features. The slopes and undulations of dune areas make them attractive sites, and according to the course manager at Royal Aberdeen GC, besides good playing conditions, coastal 'links' courses have low maintenance requirements, since the soil drains well, and circumstances are good for turf development. In the Project Manager's view, Coul Links is ideal for a golf course. However, others voiced concerns over the complex hydrology of site, with its dynamic water table, dune slacks and winter lochs. The Not Coul chairman, a dune habitat expert, expressed concerns that the site is too wet for a golf course, and that the area's hydrology will have to be significantly impacted to maintain acceptable playing conditions. An RSPB conservation planner agreed that the proposal is "naïve" about the area's intricate hydrology. Coastal erosion is also likely to threaten the course, with some tee boxes only meters away from severely eroding dune fronts.





*Figure 7: Eroding dune front at Coul links (Source: author).*

In contrast to Coul Links, the location choice for the Hoge Duinen is the result of a process of deliberation and consideration of alternatives, within the context of the limited space available on Terschelling. An SNGT advisory board member explained that a proposal for a course in the island's 'polder' (reclaimed agricultural land) in the early 2000's was met with strong opposition from residents determined to conserve the island's limited agricultural area. Thereafter, the golf club sought cooperation to find a suitable location within the 80% of the island that is owned and managed by Staatsbosbeheer (SBB). The cooperation between SBB and SNGT meant that nature conservation was a significant consideration in the siting of the project, and according to an SBB forest ranger, locating the golf course in existing dune or heath habitat was not an option. In a way, the current proposal site was decided upon 'by process of elimination'. It is the only site on the island where SBB sees potential for environmental gain, there is no public upheaval, and which is suitable for a golf course. Both SNGT and ecological consultancy NL Adviseurs stressed that the course will fit naturally into the site, which is necessary, since SBB will not allow reshaping of earth.

In conclusion, in choosing the Coul Links location, nature conservation considerations were secondary to the desire to create a world-class tourist destination, leading to a clear conflict of interests with environmentalists. On Terschelling, nature conservation was an important consideration almost by necessity, because 80% of the island is owned and managed by SBB. Furthermore, the intention was to develop a course for the Terschelling golf club, so unlike at Coul Links, a prime setting was not essential.

#### 5.1.2 Future management and long-term effects (question 1.2)

This section discusses how the long-term effects of golf course development, both positive and negative, have influenced the Coul Links and Hoge Duinen proposal and the debate surrounding them.

An important argument in favour of golf courses is that they lead to better ecological management of protected areas. The Project Manager at Coul Links said that biodiversity net gain is achieved in golf course development "without fail", primarily through improved land management, since "every piece of land needs management". Although conservationists are unlikely to agree that human intervention is always desirable, in the case of Coul Links there is consensus amongst environmental organisations that improved management is necessary to protect the site from invasive species, including bracken, gorse, rosebay willowherb, and birch, which threaten to overwhelm parts of the site (see Figure 8). The Embo Trust director added that some areas have become entirely impassable, restricting the use of the

site by the public. More concerning is the danger that a few species become entirely dominant, leading to the loss of the diverse and unique flora of the dune system. Environmental organisations, including SNH and the RSPB acknowledge this problem, but according to the Coul Links Project Manager do not have the resources to deal with it. He explained that the golf course would ensure funding and a dedicated team of 10 greenkeepers to manage the site.



*Figure 8: Invasive gorse bushes on Coul Links (Source: author)*

Nevertheless, although an increase in resources for ecological management is likely to be a positive outcome, opponents feel that this does not legitimise the development and that good management of Coul Links should be possible without the addition of a golf course. A management agreement was in place with the private landowner from 1985 onward, but according to SNH nothing in it was enacted, even though much staff time was spent encouraging the landowner. The SNH area operations officer said “the relationship has not been good, and SNH has found it difficult to find a positive way forward”. The Not Coul chairman expressed the suspicion that the landowner has intentionally allowed the ecological state of the site to deteriorate, to improve chances of the golf course development, in which he has an interest, being granted planning permission. There is no concrete evidence that this is the case, but the accusation is indicative of the lack of trust on both sides.

An important concern amongst objectors is how the ecological management of the golf course will be guaranteed in the future. “Planning authorities’ lack of power to monitor and enforce the implementation of measures that developers have committed to is striking”, according to the golf development programme director at GEO Foundation. The Not Coul Chairman added that the Highland Council does not have the resources to “police the conditions of planning permission” and an RSPB conservation planner said that “consent is consent” and once it is granted there will be little monitoring and follow-up, and the developers are likely to “water down” their environmental commitments. In this regard, opponents of Coul Links point to what has happened at TIGLS, where environmental commitments were largely disregarded once planning permission was granted.

Thus, at least in part, concerns about the future management of the site stem from a lack of trust. Environmentalists do not believe that developers will make good their promises, even though SNH are involved in setting up an ecological management plan. Even assuming the best intentions of developers, it is not possible to guarantee how future environmental issues will be dealt with. For example, the future implications of Coastal erosion at Coul Links are unknown. The environmental statement

accompanying the proposal says that the dune front will be reprofiled to counter erosion, but the Not Coul chairman explained that man-made coastal defences will be necessary to protect the course, which could potentially mean the loss of the popular beach due to wave erosion. Another unknown, according to RSPB and Not Coul, are the long-term effects on the complex hydro-chemistry of the site. The chairman of Not Coul, an ecological expert, expressed concern about the effects of nitrogen-based fertilisation of the fairways. He pointed out that there are rubbish tips on the site, where the natural hydro-chemistry has been affected, leading to non-native vegetation and impacts on nearby dune slacks. He expressed fear that nitrogen run-off from the fairways could have similar, wide-spread effects on Coul Links' ecosystem. According to objectors, long-term and unknown effects like this have not been given sufficient consideration in the proposal, which focusses on mitigating the direct environmental impacts of constructing the course, and the improved management of existing environmental issues.

While environmentalists are dubious about the ecological management potential of a golf course at Coul Links, the Dutch Forestry Commission (SBB) is optimistic about opportunities on Terschelling. An SBB ranger explained that they will remain the owner of the land, renting it out to the golf club on condition, amongst others, that they remain in control of the ecological management of the out-of-play areas. In this way, increased resources for management will be made available (the rent paid by the golf club), without having to accept uncertainties over the management of the most ecologically sensitive areas. Furthermore, an SNGT advisory board member pointed out that, should the golf course not prove a success, SBB will be able to turn it the entire site into new dune habitat. Therefore, there is not much to lose, in contrast to Coul Links, where the golf course will replace habitat that has developed over thousands of years.

In conclusion, the future ecological management of the site has received considerable attention in the planning processes for both Coul Links and the Hoge Duinen. There are far fewer concerns and uncertainties about the Hoge Duinen for two main reasons. Firstly, although SNH will be involved in developing the management plan for Coul Links, SBB has a far greater degree of control on Terschelling, since, as owners and managers of the site, they can set strict conditions and remain in full control of management of sensitive areas in the future. Secondly, due to the more sensitive character of Coul Links, there is 'more to lose' if ecological management is lacking in the future. Furthermore, there are concerns that long-term threats to Coul Links, such as coastal erosion, are neglected in the proposal.

### 5.1.3 Local economics versus global environmentalism (question 1.3)

This section discusses how competing interest, particularly the contrast between the economic and environmental, are reflected in the debate and planning processes regarding the Coul Links and Hoge Duinen proposals.

There is an apparent tension between the social and economic interests of local supporters of the Coul Links development and the environmental concerns of outsiders. Based on public comments received by the planning application, local proponents feel that a potentially life-changing economic development is being jeopardised by environmentalists who have no knowledge of, or links with the area. The Embo Trust director highlighted that to a small community like Embo, which is home to only several hundred residents, the potential economic impact of a world-class golf course is immense. He is convinced of the development's economic importance, since "the economy of the region is dire and the community is crying out for jobs". According to the developers' projections, the course will create 250 jobs in the area in 10 years, and although Not Coul's economic report argues that this is exaggerated, according to the Embo Trust director even a single job sustaining a family could be crucial to the vitality of the community. He explained that this is appreciated primarily by inhabitants with strong family ties with the area, and that local objectors are generally retirees from elsewhere. But supporters primarily feel overwhelmed by opposition from non-local environmentalists, who they feel do not have the right



to judge the local situation. A petition opposing the golf course has gained almost 90 thousand signatures<sup>1</sup>, dwarfing the population Embo. The Embo Trust director recognised that objecting environmental bodies are doing their jobs, but stressed that “at least they have jobs and pensions, unlike many Embo inhabitants”. An RSPB conservation planner pointed out that it is unsurprising that locals are less appreciative of the site’s ecological value, because they are very familiar with it. Indeed, one local resident said that there is “plenty of wild land in the area and most of it is cold, wet desert”.

Proponents of the Coul Links course feel that, although they prioritise economic issues, they have shown willing to cooperate and address environmental concerns. The Project Manager stated that:

*“Every rational person can see that the proposal is well-balanced, offering economic opportunity for the area, while working to mitigate concerns and improve the area environmentally.”*

On the other hand, he said that opponents are not willing to engage with the economic concerns. They have “environmental tunnel vision”, according to the Embo Trust director, and no alternative plans for the area’s economy. The Hoge Duinen proposal seems to have more successfully struck a balance between the nature conservation concerns of SBB and socio-economic interest, including the golf club’s recreational wishes, but also economic gain for Terschelling. Although the golf course will not be exploited for profit, SNGT’s business plan predicts that from year 6 onwards it will generate over 2 million euro’s for Terschelling’s tourist sector and many local businesses have invested in the crowd funding scheme to finance the course. A municipality policy officer said it is an opportunity to diversify Terschelling’s touristic offer, adding that, although increasing visitor numbers is currently not desirable, it is important to ensure continued competitiveness with other destinations. However, the SOS Terschelling chairman opposed the economic desirability of a golf course and said that touristic development is approaching a turning point at which the island will lose its charm and authenticity, and thereby its attractiveness. The primary debate is not whether a golf course is environmentally acceptable on Terschelling, but whether it is socially and economically desirable. Many interviewees agreed that SBB’s involvement has likely led to other environmental organisations trusting the project.

## 5.2 The nature conservation value of golf courses

The following four sub-sections focus on how the potential of Coul Links and the Hoge Duinen to contribute to nature conservation is perceived (research aim 2). The first discusses the fundamental perceptions of nature that are apparent in the planning processes, while the second focusses on the proposals potential to achieve environmental improvement, i.e. biodiversity net gain. Thereafter, a section is devoted to whether the proposals fit into existing conservation legislation, and finally, the proposals’ social aspects are discussed.

### 5.2.1 Apparent perceptions of nature (question 2.1)

The literature review introduced the difference between traditional, restrictive conservation, based on an eco-centric ideology, and the more contemporary anthropocentric trend, which makes room for human interests in conservation. This section discusses how these contrasting ideas are reflected in the planning processes for the Hoge Duinen and Coul Links.

Objectors to the Coul Links proposals stressed the intrinsic and holistic values of the site, like an RSPB conservation planner, who said:

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<sup>1</sup> 89,361 on 14 June 2018. See: <https://you.38degrees.org.uk/petitions/conserve-coul-links-for-nature-not-golf-1>

*“It has taken thousands of years for these ecosystems to develop. You can’t just lift them up and translocate them. It’s not about ‘net gain’, but about qualitative value.”*

Furthermore, many comments received by the planning application expressed the sentiment that humans do not have the right to interfere with the limited wild areas that are left. The chairman of Not Coul expressed concern over society’s loss of appreciation for nature in general, lack of long-term perspective on biodiversity and habitat loss, and what he called “salami slice logic”, the recurring idea that “just a bit can’t do any harm”. For example, habitat like Coul Links was common on Scotland’s east coast several hundred years ago, but most of it has already been used for golf courses. The site undoubtedly harbours habitats and ecosystems that have evolved naturally and are unique, or at least rare, but according to the Coul Links Project Manager the idea of it as pristine wilderness is false, as the site has already been significantly influenced by humans. He pointed out an abandoned railway line on the edge of the site, the felled tree plantation, covered up rubbish tips, and human activities such as shooting and dog walking. This reasoning is contrary to objectors’ portrayal of Coul Links as one of the last untouched dune habitats in Scotland, and is akin to the anthropocentric that human influence on nature is ubiquitous and there is no point in denying it.

Similarly, a policy officer at Terschelling municipality stated that there is no real nature left in the Netherlands, and that nature conservation is little more than “gardening”, putting in mind the previously discussed idea of nature as human controlled ‘rambunctious gardens’ (Marris, 2013). There can be no doubt that the Hoge Duinen site is not untouched nature, since the predominant habitat is planted pine forest. Although it is not of ecological interest, the existing forest is regarded to have value, but primarily in relation to its use to humans. For example, the SOS Terschelling chairman explained that the forest adds some variation in habitat to the island, which tourists and locals enjoy for walking, cycling and horse riding. A consultant at NL Adviseurs added that the site is of cultural-historical value, due to human influences, including the planted forest and bunkers from the second world war. Finally, the trees are of value to humans for their carbon sequestration potential, making compensation for their removal necessary. Although the site is valued in terms of human use, the intrinsic value of nature on the site is not a consideration and there is no significant opposition to the idea of human intervention: a practical, human-centred approach to nature conservation is apparent amongst the actors involved. Discussing SBB’s reasons for being involved in the proposal, a forest ranger said that “it is part of the zeitgeist that nature should be useful in some way to humans”. An SNGT advisory board member said that the area will consist of beautiful nature, despite the golf course running through it, reflecting a point of view that nature and human activity can go hand in hand.

In conclusion, in the Hoge Duinen case, a practical, ‘nature for humans’ approach to conservation is apparent. The dominant sentiment is that combining nature with a golf course is desirable, if nature is not sacrificed. This is also the view of proponents of Coul Links, but in this case, there is opposition grounded in an eco-centric perception of nature. Objectors feel that humans should respect the intrinsic value of Coul Links’ ecosystem, an argument which is not raised on Terschelling, possibly because the site’s ecosystem is far less sensitive.

### 5.2.2 Biodiversity net gain (question 2.2)

Habitat destruction is one of the most severe threats that humans pose to biodiversity, and it is certainly the most significant direct impact of golf course development on the environment. Although the Coul Links and Hoge Duinen developments would lead to the loss of existing habitat, both proposals state that they will achieve environmental gain. This section discusses views regarding whether and how the developments could enhance the natural value of the sites.

At Coul Links the tees, greens and fairways of the 18-hole course will cover 22.7 ha, 14 ha of which is within the protected area. Mitigation measures include the translocation of 5.7 ha of dune heath to a felled tree plantation on the site and the commitment of the developer to purchase 14.3 ha of land south of the protected area, which is largely covered in invasive species, and restore it to high quality dune habitat. The developers' plan is that this combined 20 ha of 'environmentally improved habitat' will not just offset the 14.0 ha of direct impact that the golf course will have in the protected area, but offer 6 ha of net gain. However, environmentalists object to this scheme for several reasons. Firstly, SNH, RSPB and Not Coul all have doubts about the practical suitability of habitat translocation as a mitigation measure. The Coul Links Project Manager was adamant that translocation of both heath and juniper can be done successfully. He pointed out that heather was translocated during the development of Castle Stuart golf links in nearby Inverness, which opened in 2009, and finds it inconsistent and hypocritical that opponents who praised that translocation now say it is not possible. But the chairman of local protest group Not Coul said that there is too much uncertainty regarding the success of translocation and that at Castle Stuart inland heath was translocated, and not dune heath. He also pointed out that translocation of rare dune juniper (Figure 9), of which Coul Links is home to the second largest population in the UK, has never been tried before. Besides concerns about the practicability of translocating, objectors also raise ethical concerns, stating that a holistic view of the site's ecosystem should be taken, because the existing habitat has evolved together over time. If one element is changed, this disturbs the entire ecosystem. Therefore, the effect of the golf course on Coul Links will not be restricted to the 14 ha of tees, greens and fairways. An RSPB conservation planner agreed that moving pieces of habitat does not take proper consideration of the complexities of the ecosystem and will lead to artificial, simplified habitat. Furthermore, the SNH area officer pointed out that translocation does not meet the "prescribed processes" for mitigation.



*Figure 9: A dune juniper bush in a dune slack at Coul Links (Source: author).*

At the Hoge Duinen 27 ha of 'species poor pine forest' (see Figure 10) will be felled and the cleared area will be used primarily for greens and tees (1.8 ha), fairways (11.5 ha) and newly created dune habitats (6.9 ha heath, 4.7 ha grey dune). The basic premise for increasing the ecological value of the area is that the 12.2 ha of newly created habitat is worth more than the 27 ha of lost pine forest. Unlike at Coul Links, there is little concern over the uncertainties of habitat creation on Terschelling for several reasons. Firstly, a similar project has already been carried out by SBB at Arjensduin, where a former forested area has been returned to natural dune habitat (see Figure 11). An SBB ranger said that,



although the area is still transitioning, it serves as an example for the Hoge Duinen. Secondly, unlike the translocations at Coul Links, the habitat being dealt with on Terschelling is not regarded as being particularly valuable and therefore there is not much to lose. In fact, according to the SBB ranger, the created dune habitat will not be of the highest quality, but he nevertheless regards it as an ecological 'bonus' for the island. This follows the rationale of 'additionality': even if biodiversity measures are not perfect, they are better than nothing.



*Figure 10: The pine forest at the Hoge Duinen site (Source: author).*

Although the biodiversity offsetting plans at Hoge Duinen have led to less resistance than at Coul Links, felling 27 ha of forest is no small matter. An ecological consultant at NL Adviseurs explains that the newly created dune habitats will serve as 'qualitative compensation' for the felled pine forest. However, it is likely that at least some 'quantitative compensation' will be required as well, to be achieved by replanting trees elsewhere. It is the responsibility of the Province of Friesland to decide whether the proposal complies with Dutch nature conservation legislation and the loss of thousands of trees is their biggest concern. It is likely that replanting will be required on another site, and that this responsibility will fall to SBB.



*Figure 11: Transitioning, newly restored dune habitat at Arjensduin, Terschelling (Source: author).*

In conclusion, in both cases, the developers believe their proposals will achieve biodiversity net gain. The proposed mitigation measures at Coul Links exemplify the wider debate on biodiversity offsetting. Objections include the uncertain success of transplantation, ethical concerns over altering habitats, and procedural arguments regarding over-reliance on offsetting measures. They are contrasted with a practical and efficient approach based on the valuation and quantification of habitat. The later approach is dominant at the Hoge Duinen, where the idea of creating new dune habitat as ‘qualitative compensation’ for felled forest is widely accepted as desirable. It is likely that resistance like at Coul Links has not arisen, the site is regarded as being less ecologically valuable.

### 5.2.3 Alignment with conservation legislation and policy (question 2.3)

This section discusses how the Coul Links and Hoge Duinen proposals relate to nature conservation legislation. Both sites are designated in part as protected areas, but as previously discussed, this does not mean that there are no possibilities for human development.

According to an RSPB conservation planner, granting planning permission for a golf course on Coul Links would go against nature conservation legislation for several reasons. She said there are important unknowns regarding the management of the golf course, the hydro-chemistry of the site, coastal erosion and the disturbance of birds. The precautionary principle holds that decision-makers should always be restrictive if there is uncertainty about the consequences of a proposed development. The proposal also does not meet the conditions for being allowed to go ahead despite negative impacts. Firstly, because alternatives have not been considered. The initial advice of several environmental organisations, including RSPB, SNH and GEO Foundation, was to locate the golf course on farmland adjacent to the site, which has the same owner. But there has been no serious consideration of this option. Secondly, any ecological damage must be compensated for, which, as discussed above, opponents do not feel is the case at Coul Links. Finally, there are not ‘imperative reasons of overriding public interest’ (IROPI) for the proposal to go ahead. The SNH area operations officer agreed that the proposal is not of (inter)national economic importance. SNH stands on the middle ground between developers and environmentalists and must decide objectively whether the proposal fits in existing policy and legislation. The SNH’s conclusion is that the proposal “does not comply with Scottish planning policy, because it will adversely affect a protected area and is not of national economic importance”.

There are clearly strong arguments from a legal perspective that the Coul Links proposal is not in line with nature conservation legislation. Nevertheless, there is strong support for the proposal, including its environmental merits. Should the development go ahead, the SNH area operation officer said it would set a precedent that building golf courses in protected areas is acceptable, particularly considering the UK's case law tradition. This could be especially important in the context of Brexit. With EU law soon to be irrelevant in Scotland, the future of nature conservation designations is uncertain. An RSPB conservation planner shared concerns about what Brexit might mean for nature conservation in Scotland, suggesting that it could potentially lead to a "race to the bottom" with local councils competing to attract as much development as possible.

The situation on Terschelling is peculiar, since the project site is part of the Natura 2000 network but is generally agreed not to be of ecological interest. An NL Adviseurs consultant said that the area is not special in any ecologically sense but only because it happens to be delineated as Natura 2000. Each Natura 2000 site has goals which include the habitat types and species which they are designed to protect. Those for the 'Duinen Terschelling' designated area do not include the pine forest that covers the proposed development site, which was key to the choice of site. A Municipality policy officer said he was unsure why the site was designated in the first place, but that it may be designed as a "buffer zone" to stop development encroaching on the island's more valuable areas. An SBB ranger agreed that from an ecological perspective, the lack of designated habitats on the site means that there is potential for environmental gain. However, there is still some debate over whether the proposal meets Dutch nature conservation legislation, primarily concerning compensation for the trees that will be felled.

Both proposals aspire to a positive environmental outcome through biodiversity offsetting measures, such as the restoration of habitat outside the Coul Links protected area and the creation of new dune habitat at the Hoge Duinen. However, according to the preventive and precautionary principles of nature conservation, as well as the procedures of the mitigation hierarchy, such measures should only be employed as a last resort to mitigate unavoidable damage. Developing golf courses in protected areas is not really "in the spirit of the law", but it is inevitable that developers will try to find leeway in legislation and push its boundaries, according to an NL Adviseurs consultant. An RSPB conservation planner agreed that developers will do what is necessary to get planning permission, but little more, and added that conservation legislation is often perceived as "annoying". The Not Coul chairman, an ecologist, expressed concern about the eroding respect for conservation legislation:

*"People just don't see where the value lies, especially if they are not told about it. There is nothing like this piece of land left outside SSSI's. We need to come to a point where protected means protected, otherwise we will gradually lose everything. Golf has already taken a lot of valuable land. It has gone too far. The scale of the imbalance is too great. It would be easy to remedy if the boundaries of protected areas were respected."*

In conclusion, chapter 2 identified that offsetting has become a popular tool for developers to compensate for their environmental impacts, as is apparent in both cases. Although preventive principles and the mitigation hierarchy are still leading in theory, they seem to be eroding in favour of jumping straight to biodiversity offsetting measures. By many, this is regarded as a fair way to balance nature conservation and socio-economic interests; others feel that a return to a more restrictive approach to development is necessary to protect nature's intrinsic value.

#### 5.2.4 Public opinion and socio-spatial justice (question 2.4)

Proposals for developments in protected areas are likely to provoke strong emotions and opinions in any case, but even more so considering the socio-spatial implications of golf courses as discussed in

Chapter 2. This section discusses how the two cases have been influenced by public opinion and what this says about perceptions both of golf and nature conservation in society.

The Coul Links Project Manager explained that public engagement and local support are of great importance to the developers. Two public consultation events were organised in October 2017, attended by over 230 people, 97% of whom were in support of the development. The director of the Embo Trust said that, although some locals are wary of the developers, most have a great deal of trust in them. One of them, Todd Warnock, has already completed several successful developments in nearby Dornoch, improving his reputation amongst the local population. On the other hand, there is also significant opposition to the proposal, with a petition against it garnering almost 90 thousand signatures<sup>2</sup>. Proponents of the Coul Links course highlighted that opinions are unfairly influenced by a previous development, the highly controversial TIGLS, which was built partly on a protected dune system at the Menie Estate near Aberdeen. According to the Project Manager, the comparison with TIGLS is entirely unfair. He said that Coul Links is less unique and that he would “personally never have built on the Menie site”. The Embo Trust director said that, if it weren’t for the controversy surrounding Trump, the Coul Links development would have gone ahead without any problems. However, an RSPB conservation planner argued that the comparison is fair, and that it is important to learn from the mistakes of the past. The Not Coul chairman agreed that the same mistake must not be made twice. The situation is personal for him, as the advice he gave as the lead ecologist at Menie was not heeded.

The Hoge Duinen poses an interesting case in terms of public opinion. In the early 2000’s there was widespread opposition on Terschelling to an initial proposal for a golf course, but this is no longer the case. Although some concerns about the proposal have been raised, for example by local interest group SOS Terschelling, it has certainly not given rise to severe public opposition. Several public meetings have been organised to explain the proposal and reactions were generally either positive or neutral, and according to an SNGT advisory board member, there is broad support for the project amongst the islanders. This raises the question why public opinion has changed over the years. A Terschelling Municipality planning officer explained that firstly, the location of the current proposal is far less sensitive, because the previous proposal was in the island’s limited ‘polder’. Terschelling Municipality’s (2014, p. 9) coalition agreement confirms that a golf course will be supported if it “fits in the landscape and is not sited in the polder”. This is an interesting point, as it indicates that on Terschelling, natural areas, even those protected by legislation, are potentially less controversial targets for human development than agricultural land, which is the reversal of the situation at Coul Links. The limited space on Terschelling contributes to this situation and there is a sentiment that there is enough nature on the island, and that conservation legislation can be unnecessarily limiting. The planning officer added that there is a ‘love-hate relationship’ with SBB, who own and manage 80% of the island. Most houses and towns are very near protected areas and restrictions in development can be perceived as a nuisance, both by individuals and the local authorities. The SOS Terschelling chairman expressed concern that a significant proportion of the population feels that touristic growth is more important than nature. Although he recognised that tourism is vital to the economy of Terschelling, he added that the islands nature and charm are its most important attractions and are threatened by continual developments, such as the golf course.

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<sup>2</sup> 88,836 on 4 June 2018: <https://you.38degrees.org.uk/petitions/conserves-coul-links-for-nature-not-golf-1>





*Figure 12: Terschelling's polder viewed from the dunes (Source: author).*

Besides the different location, the Terschelling Municipality policy officer believed changed social perceptions of golf have contributed to a positive reception of the proposal. He said golf has become more widely known in society and accepted as a legitimate use of land. Nevertheless, some objectors raise questions regarding the socio-spatial implications of the golf course. The SOS Terschelling chairman is worried that a golf course may contribute to an elitist character of the island, although the developers and one of their consultants stressed that the golf course will be public, reasonably priced, and certainly not elitist. Furthermore, continued public accessibility and multi-functionality of the site are important themes. A local forest ranger explained that SBB tries to facilitate public use of natural places as much as possible. Accessibility and the continuation of recreational activities are important conditions for the island's inhabitants to support nature conservation legislation, according to a municipality policy officer. Accordingly, the Hoge Duinen proposal does not focus solely on golf, rather, the golfer is framed as the 'fourth user' of the area, alongside walkers, cyclists and horse riders. The SOS Terschelling chairman expressed concern about the multi-functionality of the site, relating to the safety of other recreationists with "golf balls flying around everywhere" and the capacity of the created dune and heath habitat to cope with the amount of footfall. However, according to an ecological consultant at NL Adviseurs, the various usages of the site will be routed carefully to avoid dangerous situations and people will mostly remain on pathways. Regardless of the practicalities, continued accessibility was an important condition to make the project acceptable, according to an SBB ranger. He says that, although golf courses are not his idea of beautiful nature, the area will still be attractive to other users, particularly because the fairways, the largest surfaces of the golf course, will consist of native dune grasses and fit well into the surrounding, unlike a pristine "billiard table".

Given the right to roam in Scotland, Coul Links will remain accessible to the public in any case. But the developers have also committed to working with SNH to create access routes and information panels for visitors. However, regardless of public access issues, concerns have been raised over the (perceived) elitist character of the development and the justice of altering a unique natural site to serve the purposes of a relatively small number of golfers. The golf course is specifically aimed at attracting golf tourists and a Not Coul protest video asks the question why valuable natural habitat should be sacrificed to create "another playground for rich Americans"? Based on application comments on the Highland Council website, there is a strong sentiment that there are already enough golf courses in Scotland, and the Not Coul chairman added that much of the habitat like Coul Links has already been taken up for golf.



In sum, on Terschelling, the non-exclusive nature of the golf course, which will be public and affordable, the continued accessibility and multi-functionality of the site, and the minimal ecological sensitivity of the area, mean that the proposal has not led to any significant socio-spatial justice issues. The proposal has also been well framed as a broader development of the site, in which the golf course is just one element. In contrast, opinions on the Coul Links proposal are heavily influenced by previous golf course developments in protected areas, particularly the controversial TIGLS. Opponents feel that it is unjust to relinquish yet another natural site for the enjoyment of relatively few, when there are already many golf courses in the country.

## 6 CONCLUSION

This chapter starts with a concluding discussion which first returns to the research the aims and questions, and then draws more general conclusions. The subsequent sections discuss the limitations of this study, and recommendations for further research and practice that follow from it. The final section contains a brief reflection on the research process.

### 6.1 Concluding discussion

The following two sub-sections briefly present the most important conclusions from each research aim, by providing answers to the research questions. Thereafter, a section provides more general and reflective conclusions of the research.

#### 6.1.1 Balancing nature conservation and socio-economic interests (research aim 1)

The Hoge Duinen and Coul Links cases each offer valuable insights into the interplay between human socio-economic development and nature conservation. Key differences between the two proposals mean that they have each produced a distinct perspective on this balancing act. Particularly the comparatively low ecological sensitivity of the selected site and the close involvement of Staatsbosbeheer (SBB) have led to both environmental and socio-economic interests being satisfied at the Hoge Duinen. In contrast, at Coul Links, the goal of creating a world-class golf course has proved hard to consolidate with nature conservation.

The process of balancing human and natural interest began in a fundamentally different manner in both cases. At Coul Links, the main rationale for site choice was its suitability for the intended golf course, and the site's highly sensitive ecosystem was a secondary concern. In contrast, The Hoge Duinen site was selected under the auspices of SBB, and with environmental gain in mind, and thus, nature consideration was a priority from the start. The continued involvement of SBB also means that future ecological management of the site is guaranteed, while objectors to Coul Links feel the proposal neglects to address long-term environmental issues, such as coastal erosion and impacts on site hydrology.

Therefore, the Coul Links proposal has divided stakeholders into two distinct camps along broadly economically and environmentally oriented lines. Those in favour stress the economic benefits to the local community, and feel that environmental concerns have been constructively and fairly addressed. However, opponents argue the proposal represent a severe imbalance, disregarding the intrinsic value of a unique and biodiverse dune system. In contrast, the Hoge Duinen proposal has successfully balanced nature conservation concerns, primarily upheld by SBB, with the social and economic interests of the golf club and the island's tourism sector.

#### 6.1.2 Perceptions of golf courses' conservation value (research aim 2)

The contrasting attitudes towards the Coul Links proposal reflect a fundamental divide between anthropocentric and eco-centric values of nature. While one side professes that golf courses and nature can go hand in hand, the other stresses the need to respect the intrinsic value of nature. This contrast is not apparent in the Hoge Duinen planning process, in which a human-centred approach is dominant, and combining nature with a golf course is not regarded as fundamentally problematic.

Both proposals profess to achieve 'biodiversity net gain' by compensating for their impacts through offsetting measures (e.g. habitat translocation, restoration and creation). In the perception of proponents, golf courses can positively contribute to nature conservation by increasing the quantity of valuable habitat. However, at Coul Links, which is highly ecologically sensitive, opponents argue that biodiversity net gain is a fallacy, and that proposed measures neglect the holistic nature of ecosystems.

In the minds of objectors, granting planning permission at Coul Links would undermine existing planning policy and legislation, because it would damage protected dune habitat, without proper consideration of alternatives, provision of mitigation, or being of (inter)national economic importance (i.e. IROPI). The situation at the Hoge Duinen is more complex, because, although the site is protected, the existing habitat type (pine forest) is not a conservation goal of the Natura 2000 management plan. Therefore, there is consensus that there is leeway for the proposal within existing legislation (although the felled trees must be compensated).

Finally, the social-spatial justice of developing a golf course at Coul Links is questioned by objectors, who feel that it would mean sacrificing a valuable natural area for the enjoyment of the privileged few. These issues have been avoided at the Hoge Duinen, where the golf course will be less exclusive, and the site has been well framed as a multi-functional natural area, that everyone can enjoy.

### 6.1.3 General conclusions

The two cases studied in this research have each provided valuable insights into the role of nature conservation in modern society, and its relation to golf course development. While Coul Links exemplifies the conflict between human development and nature conservation, the Hoge Duinen is primarily of interest as an example of their (seemingly) successful combination. The conclusions presented here place these learnings in the context of broader theories and debates regarding European nature conservation and golf course development.

The Hoge Duinen can be regarded as a prime example of the ‘new conservation’ in practice, as it indicates that, given the right circumstances, there can be consensus that golf course development can contribute to nature conservation goals. Important lessons can be drawn from this by the golf industry, which as previously suggested is experiencing a ‘fourth environmental turn’. As course development becomes increasingly environmentally oriented, the Hoge Duinen proposal can provide an example of good practice, as it involved close cooperation with environmental stakeholders, strict conditions governing course construction, and crucially, the selection of a suitable site, prioritising nature conservation goals. Furthermore, the proposal further strengthens the idea that multi-functional golf courses can help to negate the sport’s socio-spatial justice issues.

The Coul Links and Hoge Duinen cases provide interesting contributions to the broader debate on biodiversity offsetting in European nature conservation, as both proposals rely on such measures to achieve a positive conservation outcome (i.e. net biodiversity gain). Concerns over the ethics and effectiveness of translocating habitat at Coul Links mirror more general arguments against biodiversity offsetting. In contrast, proposed habitat creation at the Hoge Duinen has not led to objections. The key is that the existing pine forest on Terschelling, which was selected with environmental gain in mind, is far less sensitive than Coul Links’ dune system. This suggests that the acceptability of offsetting is dependent on the sensitivity of the habitat at risk, i.e. how much there is to lose if measures prove ineffective. Therefore, biodiversity offsetting measures need not be controversial in principle, but their application should be restricted to sites where there is a clear opportunity for environmental gain (achieving true ‘additionality’). In exaggerated terms, on sites where there is not much to lose, ‘no net loss’ is all but guaranteed.

According to the mitigation hierarchy, measures like habitat restoration, translocation and creation must be employed as a last resort, if damage cannot be avoided. However, debate exists over their increasing use throughout Europe as an excuse to avoid preceding procedural steps, most importantly ‘avoidance’. In broad terms, this phenomenon presents an erosion of the eco-centric, preventive principles of nature conservation, i.e. ‘protected means protected’, in favour of increasing room for human influence in protected areas. If the Coul Links project goes ahead, in the eyes of opponents, it would set a strong

precedent that golf course development in protected areas is acceptable, and thus that the restrictive fundamentals of conservation legislation are indeed eroding in favour of the economically sympathetic 'new conservation'. Certainly, from a traditional eco-centric perspective on conservation, development of any type on Coul Links would undermine the intrinsic value of the site's unique ecosystem. However, the fundamental role of nature conservation in society is increasingly being challenged, and the cautious approach of the mitigation hierarchy has seemingly been superseded by fast-tracking to 'net biodiversity gain'.

In sum, it is hard to argue that golf course development fits either in the intended spirit or the strict procedural requirements of European nature conservation legislation. Nevertheless, as far as human development goes, golf courses offer a relatively good potential for accommodating nature and could be a cost-efficient way to ensure ecological management, while also providing social and economic benefits. Whether this is desirable comes down to how much human development in protected areas is deemed acceptable. The fundamental merits of the 'new conservation' are still contested, yet its influence in both policy and practice is growing. At some point a choice must be made between letting this trend continue, or actively reinforcing the restrictive fundamentals of nature conservation. As the sixth extinction continues and earth's biodiversity diminishes, an important question must be answered about how humankind deals with nature: Does 'nature need half' or should earth become a human-tended 'rambunctious garden'?

## 6.2 Limitations

Although section 3.6 previously discussed limitations specifically of the methodology (primarily its over-reliance on interviews), several more general limitations of this research are worth taking note of. Firstly, the study focussed on the broad context of European nature conservation and neglected to an extent the contextual difference between Scotland and The Netherlands. The specific legal and political settings of the two cases were referred to occasionally (e.g. regarding Brexit), but could have been highlighted and compared more, especially since there is no EU-wide standardised process for the management of protected areas. Additionally, differing cultural values may be an overlooked factor in how both golf and nature are perceived.

Secondly, although there were many interesting contrasts between the two cases, with hindsight, De Hoge Duinen is perhaps not the best example of a development in a 'protected area', because it is not particularly ecologically sensitive. Therefore, although the site is protected legally, and this has clearly significantly impacted the proposal, it did not prove very fruitful for studying contrasting perceptions of nature's value. Although on the other hand, the case was of interesting for a variety of other reasons, including as an example of consensus being reached regarding 'net biodiversity gain'.

Finally, although the study has produced findings that are of relevance to the golf industry, the conclusions reflect primarily on the general relationship between human development and nature conservation. Issues regarding the relation between nature and specifically golf courses could have been explored more.

## 6.3 Recommendations

In light of the findings of this research, several avenues that require further exploration are apparent. Some require further scientific research, while other present challenges for practice.

Firstly, it became apparent during this research that there is much disagreement and uncertainty regarding the practicability of measures such as habitat creation, restoration and translocation, both in the literature and in practice. This research explored this issues from a social science perspective, but long-term ecological studies are necessary to determine the effects of such measures on biodiversity

and the integrity of ecosystems. Although such research may not solve ethical issues regarding human interference with nature, it may at least provide an answer regarding the practical effectiveness of such measures.

Secondly, in the initial phases of this research, 'cooperative planning' was identified as a potentially relevant trend in the management of protected areas. It was eventually not included in the theoretical framework. With hindsight however, the partnership between SBB and SNGT makes the Hoge Duinen an interesting case in this regard. This merits further exploration, because there is a need for more research on the importance of cooperation for actual conservation outcomes, i.e. the extent to which it affects biodiversity on the ground. In other words, does cooperative planning only lead to justice and trust, or also to better ecological outcomes (Blicharska et al, 2016). Studying the ecological outcomes of the Hoge Duinen case will however only be possible if and when the development is completed. At this point they could be compared to similar cases which did not involve cooperative planning.

Thirdly, an important objection against golf courses in protected areas is that it is uncertain how they will be managed in the future and what their long-term impacts on nature will be. A longitudinal study, measuring the environmental effects of several golf courses from development onwards over a long period of time, could lead to a better understanding of these issues, and help inform best practice for golf course management. However, uncertainty over future management is unlikely to be put to rest until environmental commitments made by developers can be effectively enforced. Herein lies a legislative challenge to change the culture of 'consent is consent', and put effective measures in place that will allow authorities to police the conditions of planning permission.

Finally, the attraction of beautiful, protected areas golf development has proven to be persistent, perhaps understandably, as there is clearly a demand for such courses. However, for the golf industry to move in an increasingly sustainable direction, there lies an important challenge in designing and creating great golf courses outside protected areas.

## 6.4 Reflections

In reflection on the research process, the primary difficulty was time management. A significant amount of time was spent planning and preparing site visits and interviews, which meant that other elements of the research, most notably the planned documentary analysis, suffered. A second encountered difficulty was the sensitivity of the chosen research topic. Some respondents were very wary of participating in an interview, since they suspected it would produce an 'anti-golf story', and bad publicity. Others declined to be recorded or seemed careful not to stray from official lines. The controversy surrounding particularly the Coul Links made for an interesting and engaging study, but was also an added challenge to the research process.

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# ANNEXES

## Annex 1: Interview Guide

### **The Site**

Why was this particular site chosen for the proposal? Were any other sites considered?

How will the character of the site influence the golf course?

Part of the site has a protected status. Did this influence the choice of site?

### **The Planning Process**

How is the planning process going from your perspective? What is the current situation?

What parties are involved in the proposal and how is the cooperation between them?

Has there been opposition to the proposal? If so, how has this influenced the planning process?

Has participation by a variety of stakeholders actively been encouraged?

### **Nature Conservation**

What role do nature conservation considerations play in the proposal?

Has the proposal been influenced by nature conservation legislation?

What changes will be made to the existing habitat on the site?

How will biodiversity in the area be affected?

How will the ecological management of the site after completion of the golf course be ensured?

Will any non-native species be introduced? Will pesticides be used for maintenance?

### **Socio-economic Impacts**

Who will play on the course? How will it be priced? Who will profit financially?

What development will occur other than the golf course itself? (i.e. clubhouse, accommodation, etc.)

How will the golf course effect the local economy?

Will the course be accessible to non-golfers? Will there be any multi-functionality of the area? (i.e. other uses such as walking and cycling)?

Is there broad support for the project?

## Annex 2: Coding Scheme

### **Theme 1: Golf and the environment**

- 1.1 Site choice and suitability
- 1.2 Perceptions of the natural value of golf courses
- 1.3 Attitudes towards nature conservation in the golf industry
- 1.4 Future site management and long-term effects

### **Theme 2: Nature conservation in practice**

- 2.1 Nature conservation designations and the planning process
- 2.2 Compensation, mitigation and biodiversity net gain
- 2.3 Apparent ideologies of nature conservation

### **Theme 3: Actors and interests**

- 3.1 Stakeholder engagement, participation and cooperative planning
- 3.2 Public opinion, opposition and support
- 3.3 Economic impacts and interests
- 3.4 Accessibility, multifunctionality and socio-spatial justice



### Annex 3: Ethical approval form

#### CARDIFF SCHOOL OF GEOGRAPHY AND PLANNING

#### Ethical Approval Form

#### Student Projects (Undergraduate & Taught Masters)

*In the case of dissertations it is the responsibility of the student to complete the form, duly signed by their supervisor, and secure ethical approval prior to any fieldwork commencing. A copy of the form should be included with their final dissertation.*

**Title of Project:** Balancing Nature Conservation and Socio-Economic Development: A study into the development of golf courses on coastal Natura 2000 sites.

**Name of Student(s):** Robert Ewing

**Name of Supervisor/Module Leader:** Andrea Collins

**Degree Programme and Level:** ESPEP MSc

**Date:** 21 March 2018

#### **Recruitment Procedures:**

		Yes	No	N/A
1	Does your project include children under 16 years of age?		X	
2	Does your project include people with learning or communication difficulties?		X	
3	Does your project include people in custody?		X	
4	Is your project likely to include people involved in illegal activities?		X	
5	Does project involve people belonging to a vulnerable group, other than		X	

	those listed above?			
6	Does your project include people who are, or are likely to become your clients or clients of the department in which you work?		X	
7	Does your project include people for whom English / Welsh is not their first language?	X		

**Consent Procedures:**

		Yes	No	N/A
8	Will you tell participants that their participation is voluntary?	X		
9	Will you obtain written consent for participation?	X		
10	If the research is observational, will you ask participants for their consent to being observed?	X		
11	Will you tell participants that they may withdraw from the research at any time and for any reasons?	X		
12	Will you give potential participants a significant period of time to consider participation?	X		

**Possible Harm to Participants:**

		Yes	No	N/A
13	Is there any realistic risk of any participants experiencing either physical or psychological distress or discomfort?		X	
14	Is there any realistic risk of any participants experiencing a detriment		X	

	to their interests as a result of participation?			
--	--	--	--	--

**If there are any risks to the participants you must explain in the box on page 4 how you intend to minimise these risks**

**Data Protection:**

		Yes	No	N/A
15	Will any non-anonymised and/or personalised data be generated and/or stored?	x		Interviewees may not be anonymous (unless they wish to be)
16	Will you have access to documents containing sensitive <sup>1</sup> data about living individuals?		X	
	If "Yes" will you gain the consent of the individuals concerned?			

**If there are any other potential ethical issues that you think the Committee should consider please explain them in the box on page 4. It is your obligation to bring to the attention of the Committee any ethical issues not covered on this form.**

**Supervisor's declaration**

As the supervisor for this student project, I confirm that I believe that all research ethical issues have been dealt with in accordance with University policy and the research ethics guidelines of the relevant professional organisation.

Date 22/3/18 Name Andrea Collins Signature Andrea Collins  
ANDREA COLLINS

**If any of the shaded boxes have been ticked the supervisor/module leader must explain in the box on page 4 of this form how the potential ethical issue will be handled**

<sup>1</sup> Sensitive data are *inter alia* data that relates to racial or ethnic origin, political opinions, religious beliefs, trade union membership, physical or mental health, sexual life, actual and alleged offences.

Please explain how the identified potential research ethics issue/s will be handled

7. Some participants may be Dutch or Portuguese. It is likely their English will be adequate to fully understand the research and participate in interviews. If not, I am a fluent Dutch speaker, so if necessary I can translate interviews. In the case of someone only speaking Portuguese, I will have to seek other appropriate participants.

15. Interviewees may not be anonymous (unless they wish to be). Of Course, participants will be given the option to remain anonymous. But if they do not feel this is necessary, it will add clarity and context to the reader to know who said what.

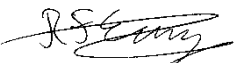
Will gain verbal consent when interviewing people

#### Annex 4: Declaration page (Cardiff University)

<b>CANDIDATE'S ID NUMBER</b>	<b>C1675788</b>
<b>CANDIDATE'S SURNAME</b>	<b>Mr Robert Ewing</b>
<b>CANDIDATE'S FORENAMES</b> FULL	<b>Robert Finlay</b>

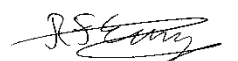
#### DECLARATION

This work has not previously been accepted in substance for any degree and is not concurrently submitted in candidature for any degree.

Signed:  (candidate) Date: 15 June 2018

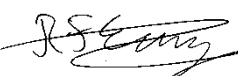
#### STATEMENT 1

This dissertation is being submitted in partial fulfillment of the requirements for the degree of MSc European Spatial Planning and Environmental Policy.

Signed:  (candidate) Date: 15 June 2018

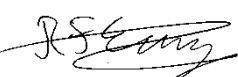
#### STATEMENT 2

This dissertation is the result of my own independent work/investigation, except where otherwise stated. Other sources are acknowledged by footnotes giving explicit references. A Bibliography is appended.

Signed:  (candidate) Date: 15 June 2018

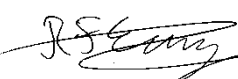
#### STATEMENT 3 – TO BE COMPLETED WHERE THE SECOND COPY OF THE DISSERTATION IS SUBMITTED IN AN APPROVED ELECTRONIC FORMAT

I confirm that the electronic copy is identical to the bound copy of the dissertation

Signed:  (candidate) Date: 15 June 2018

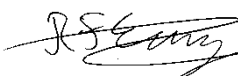
#### STATEMENT 4

I hereby give consent for my dissertation, if accepted, to be available for photocopying and for inter-library loan, and for the title and summary to be made available to outside organisations.

Signed:  (candidate) Date: 15 June 2018

#### STATEMENT 5 - BAR ON ACCESS APPROVED

I hereby give consent for my dissertation, if accepted, to be available for photocopying and for inter-library loans **after expiry of a bar on access approved by the Graduate Development Committee.**

Signed:  (candidate) Date: 15 June 2018

