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Depreciative tourist behaviour in a protected birdwatching site: A qualitative study of birdwatchers on Hornøya, Northern Norway

Hvordan forstå turisters uønskede og ulovlige atferd i et naturreservat: Et kvalitativt studium av fuglekikkere på Hornøya i Nord-Norge

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Nature-based Tourism

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Preface

This master thesis is a part of the project BIOTOUR – Tourism in the new bio-economy. I would like to thank the team for letting me participate on the research project in an important field.

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Frida Marie Omma Jørgensen

Abstract

Wildlife watching tourism is a growing industry and can become eco-friendly if sufficient conservation measures are actively included in the operative tourism strategies. Research on visitor behaviour is necessary to evaluate and understand peoples' behaviour towards wildlife. The focus of this case-study is birdwatching tourism in a protected nature reserve in Northern Norway. Qualitative methods have been used with The Theory of Planned Behaviour as a framework. The aim of the study is *to understand visitor behaviour that may disturb the seabird on the island of Hornøya*. The research is based on 48 interviews with 61 participants, in addition to participatory and systematic observations of tourists at the island.

Interpretation of bird behaviour and the affective responses to the wildlife experience are identified as factors that influence unwanted visitor behaviour. Informants' understandings of disturbance towards the seabirds are reflected in negative perceptions of inappropriate behaviour. However, most participants believe that the birds are not disturbed by tourists, or at least not easily disturbed. However, some variation exists, and some informants think that the birds are negatively affected to some extent. The social norms support that visitors express a responsibility for respecting the rules of the nature reserve. The findings also suggest that visitors performing intentional non-conforming behaviour have not internalised the social norm, it has not become a personal norm.

The willingness among visitors for social sanctioning towards depreciative behaviour was relatively low, suggesting that stricter formal regulations may be more effective measures for reduced depreciative behaviour. The study also identifies persuasive communication through interpretive information as a management approach with potential of reducing inappropriate behaviour. Further, alternative tourism experiences of seabirds can lessen the pressure on birdlife on Hornøya, as well as creating new business opportunities.

Keywords: wildlife tourism, birdwatching, nature conservation, depreciative tourist behaviour, human-animal relations, seabirds, Hornøya

Sammendrag

Viltturisme er en voksende industri og kan være natur- og miljøvennlig hvis kunnskapsbasert, effektiv naturforvaltning ligger til grunn for besøksstrategiene. For å vurdere hvilke effekter turisme har på dyrelivet og hvordan vi kan forebygge negative effekter, er det nødvendig å forstå mer av menneskelig atferd som kan forstyrre dyr. Studien tar for seg fugleturisme i naturreservatet Hornøya i Varanger, Nord-Norge. Metoden består av kvalitative intervju og observasjoner, med utgangspunkt i det teoretiske rammeverket Theory of Planned Behaviour. Målet med studien er å *forsøke å forstå uønsket atferd hos turister på Hornøya*. Forskningen er basert på 48 intervju, derav 61 deltakere, samt deltakende og skjult observasjon.

To av funnene identifisert som påvirkninger på menneskelig uønsket atferd, er de besøkendes tolkninger av fugleatferd, og det emosjonelle aspektet ved opplevelsen av fuglefjellet. Informantenes holdninger til forstyrrelse av fugl er negative. Allikevel synes mange deltakere at fuglene ikke virker å være forstyrret av turistene, men blitt vant til mennesker. På den andre siden mener noen informanter at fuglene blir negativt påvirket til en viss grad. De sosiale normene innebærer å respektere reglene for naturreservatet. Det kan antas at besøkende som bevisst overskrider reglene, ikke har omgjort de samme moralske forpliktelsene til en personlig norm.

Videre var motivasjonen for gjennomføring av sosiale sanksjoner (ved for eksempel å irettesette de som oppfører seg upassende) relativt lav. Dermed foreslås økt regulering av forvaltningen som effektive tiltak for kontroll av uønsket atferd hos turister. Et annet tiltak er å forbedre kommunikasjonen av formelle regler og hva som er rett opptreden gjennom interpretasjon, herunder å formidle kunnskap om fugleliv og konsekvenser av menneskelig ferdsel. Et annet avbøtende tiltak er tilpasninger av reiselivsprodukter for å minimere stress på sjøfuglene, f.eks. et besøkssenter i Vardø med direkte video av fuglefjellet, som også kan styrke det lokale næringslivet.

Nøkkelord: viltturisme, fuglekikking, naturforvaltning, uønsket atferd hos turister, menneske-dyr relasjon, sjøfugl, Hornøya

Part I Background and overview of study



Picture by Frida M. O. Jørgensen

Introduction

Nature-based tourism is growing in popularity and has the potential to become a sustainable industry, but at the same time it increases pressure on natural resources, biodiversity and protected areas (Elmahdy, Haukeland, & Fredman, 2017). The report from the World Tourism Organization (UNWTO) from 2018 promotes sustainable tourism, stating that governments and stakeholders should plan for sustainable tourism development. Tourism specifically associated with natural resources can be defined as eco-tourism, given that it fulfils a set of requirements (Møller, 2017). A special form of nature-based tourism is based on wildlife encounters (Şekercioğlu, 2002), for example swimming with dolphins, lion safaris, or general wildlife viewing amongst others (Blumstein, Geffroy, Samia, & Bessa, 2017). Some also categorise recreational fishing and hunting as wildlife tourism. Popular attractions often have high biodiversity and vulnerable ecosystems and thus must be managed in a responsible way.

In Norway, The Ministry of Trade, Industry and Fisheries (2017) has urged the national tourism industry to improve its products and create valuable experiences for people that combine food, culture, nature and activities. To succeed in the competitive international travel market, new knowledge in these fields is needed. Economic growth is important to secure employment and community development (Norwegian Hospitality Association, 2018). Moreover, the organisation points out that increasing tourism can lead to increased responsibility for and commitment to the environment. 'Green tourism' can be a part of the move towards a more environmentally-friendly society. Scientific research across disciplines plays a crucial role in maximising the positive outcomes of nature-based tourism and minimising negative impacts on the environment and wildlife. Thus, tourism should be adaptable to specific ecological, geographical and sociological conditions (Blumstein et al., 2017). New research must help to design effective management programs (Higginbottom, 2004b).

For the development of tourism in protected areas, such as national parks and nature reserves, special concerns apply. Generally, these are flagship attractions because of their rare and often vulnerable wildlife, vegetation or landscape. The Norwegian government has developed visitor strategies for nature conservation areas (Norwegian Environment Agency, 2015). These strategies aim to protect the environmental value of an area and to facilitate

for local economic growth, which are in line with the conservation objectives. Therefore, the tourism associated with the protected area must be examined. Central questions are: which resources are available to use, such as public funds, and what type of visitors are coming to the protected area and for what reason? It is also important to obtain knowledge about tourists' expectations and experience requirements. In addition to identify tour operators using the area and what type of activities they are conducting. Furthermore, the process entails collaboration between stakeholders to strengthen the image and quality of the destination.

Wildlife tourism and Ecotourism

There is a wide array of different types of tourism based on natural resources and biodiversity, and the terms often overlap each other. This study examines wildlife tourism at a bird island in Northern Norway. Borges de Lima and Green (2017a) define 'wildlife tourism' as *"a nature-based tourism niche on interactions and viewing wild animals in either their natural habitats, in semi-captivity or captivity"* (p. 2). Similarly, Higginbottom (2004a) refers to wildlife tourism as *"encounters with non-domesticated animal(s), in the animals' natural environment or in captivity"*.

Thus, wildlife watching is a sub-category, and comes in different forms, from watching animals in captivity or semi-captivity (e.g. a nature park), to viewing them in their natural habitat. 'Wildlife' is defined as non-domesticated animals (Higginbottom, 2004a). Wildlife tourism can be non-consumptive, entailing activities like observation and photography (ibid.), or consumptive, for instance wildlife trophy hunting. In this study, birdwatching is regarded as non-consumptive wildlife tourism in the birds' natural environment. Avian tourism is another term for birdwatching tourism (Şekercioğlu, 2002).

Some forms of wildlife tourism are also ecotourism. However, even if tourist companies market themselves as 'green', it does not necessarily mean that their activities and operations are sustainable. For example, ecotourism has the mandate to minimise impacts on nature, and an 'eco-tourist' is supposed to learn about the natural values of an area. Furthermore, the tourism should provide positive effects for nature conservation, the economy and local communities (Blumstein et al., 2017). In the case of wildlife tourism *"it can be considered a form of ecotourism when it occurs within the context of nature-based activities that provide environmental interpretation and adopt environmentally responsible*

practices" (Higginbottom, 2004a: 3). On the other hand, negative consequences of ecotourism can be crowding, disturbance of wildlife and habitat fragmentation through the building of infrastructure. Furthermore, it can affect animal mortality, chick feeding, habitat degradation, biological invasion and disease prevalence (Shannon, Larson, Reed, Crookc, & Angeloni, 2017). The effects can harm wildlife on different levels; the individual animal, the community, or the whole population.

Positive effects of avian tourism

To succeed, or at least take steps in direction of more sustainable wildlife or birdwatching tourism, knowledge is needed to promote the potential positive outcomes from the activity and minimise negative impacts. A key challenge at Hornøya is to gain more knowledge on how to reduce the stress on the birds from a growing number of tourists visiting the reserve.

A positive effect from avian tourism is that it can encourage nature protection. Firstly, because the nature-based tourist companies have it in their interest to continue having the natural resources that their income relies on (Borges de Lima & Green, 2017b). Secondly, tourists contribute financially, so that increased visits can be a driving force to implement conservation strategies. Serious birdwatchers normally have a high level of education and use a substantial amount of money (Şekercioğlu, 2002). Thirdly, different forms of information will raise awareness about threatened species and educate people in proper behaviour towards wildlife (Borges de Lima & Green, 2017b). Another positive outcome for the birds specifically is that the humans may scare away predators. This process is explained in the safe-habitat hypothesis (Geffroy, Samia, Bessa, & Blumstein, 2015).

Negative consequences to birdlife

A negative effect of human presence is that birds might become dependent on tourists to keep larger birds away. Human-habituated individuals can become bolder and thus more vulnerable to predation (Geffroy et al., 2015). The greater tolerance to humans can be explained of a decrease in the production of stress-hormones. In contrast, an increase in basal stress levels can lead to increased heart rate, body temperature and other endocrine responses to human presence (Green & Giese, 2004). Consequently, it can lead to reduced breeding success and increased vulnerability to disease. If repeated over time, key behaviours like reproductive skills and mortality rate can be altered. Most commonly, birds stop reproducing in the most disturbed places, minimising the hatching success. Chicks

hatched in tourist areas have more corticosterone hormones in blood samples (Ellenberg, 2017).

When an animal becomes aware of human presence immediate responses range from avoidance (flee, hide or defend) to casual acceptance (Green & Giese, 2004). Even though individuals do not change their immediate behaviour, it may still be strongly affected (Ellenberg, 2017). Foraging and resting are life-dependent behaviours. If a bird gets disturbed during any of these processes, it can prevent restoration of energy levels (Lorentsen & Follestad, 2014). Short-term effects can develop into long-term consequences if birds are frequently disturbed. Certain behaviours are adaptively selected, and thus impact bird communities. Continual stress can lead to increased mortality or reduced breeding success of entire populations (Valentine & Birtles, 2004). The worst-case scenario involves long-term effects on an eco-system level; an extinction vortex when a population of a species spirals down and numbers are gradually reduced (Courchamp et al., 2006).

[Sea-bird status and conservation, study area and management of Hornøya](#)

[Seabird status in Norway](#)

The bird populations have been monitored at Hornøya since 1980 as part of a national program, and in 2005 the project was merged with the long-term mapping programme for Norwegian seabirds, SEAPOP (Anker-Nilssen et al., 2015). The Norwegian seabird populations make up 20-25% of all seabirds breeding in Europe. In total, around 5 million pairs of seabirds breed within Norway, a state with international responsibility for the management of seabirds. In the last ten years, seabird populations along the Norwegian coast have dropped dramatically (Anker-Nilssen et al., 2015). Research by SEAPOP (Anker-Nilssen et al., 2018) as well as other researchers and institutions has found multiple causes of the decrease. The combination of climate effects and changes in food chains has negative effects on bird habitats and food access. Additionally, other causes of the severe negative trends in seabird populations are pollutants (Conover, 2002) and other anthropogenic activities (Courchamp et al., 2006). Many seabird species that only a few decades ago were very abundant, are now on the Norwegian red-list (Henriksen & Hilmo, 2015). The latest report shows that several of the bird species on Hornøya are threatened (Reiertsen, Erikstad, Barrett, Lorentsen, & Holmøy, 2018) It is therefore a very important site for conservation and research on seabird ecosystems.

The following table is an overview of the threatened species on Hornøya. ranked from those species with the highest risk to those of the lowest risk for extinction.

Table 1. Threatened bird species that are breeding on Hornøya.

Red list category*	Species
Critically Endangered (CR)	Common guillemot (<i>Uria aalge</i>)
Endangered (EN)	Razorbill (<i>Alca torda</i>) Kittiwakes (<i>Rissa tridactyla</i>) Brünnichs guillemot (<i>Uria lomvia</i>)
Vulnerable (VU)	Puffin (<i>Fratercula arctica</i>) Black guillemot (<i>Cephus grylle</i>)
Near Threatened (NT)	Common eider (<i>Sommateria mollissima</i>)

*(Henriksen & Hilmo, 2015)

A study over three seasons at the study area (Reiertsen et al., 2018) indicates that tourists are affecting the breeding success of Common Guillemots and European Shags nesting close to the areas allowed for tourists. However, the population status and trends on the bird cliff Hornøya are stable and less negative than most other bird cliffs along the coast of mainland Norway (Anker-Nilssen et al., 2018). An estimate of bird numbers from 2016 suggests there are 60 000 breeding birds and around 100 000 non-breeding young birds on Hornøya (Reiertsen, Erikstad & Barrett pers. com.).

The governmental strategy for tourism published in 2016 claims that the distinctive and rich nature is the core of the Norwegian tourism industry. Nature and wildlife have a potential for economic gain and creating thriving local communities. Businesses should cooperate with the governmental authorities to ensure a sustainable management of the tourism experience. Trends show that visitors want to interact with nature, not only observe. The central Norwegian law for nature protection is the Nature Diversity Act (2009). A central objective is that native species must be preserved on a long-term basis in healthy populations in their natural habitats. Paragraph 6 (Naturmangfoldloven, 2009) states the principle of governing biodiversity with a basis in the precautionary principle, and any activities should avoid harming nature and wildlife, with reference to the objectives in the first paragraphs. However, the wording in the Nature Diversity Act is vague and without

concrete demands, or concrete interpretation, with, for instance, formulations such as ‘The goal is to preserve the ecosystem’s functions [...] as far as is considered possible’. This often legitimises destructive use of natural resources with the argument that socio-economic needs are more important than the biodiversity-values.

In areas with protection status as nature reserves, active management is allowed, such as measurements for the restoration of vegetation, maintenance of tracks, information stands etc. Alternatively, it is also possible to ban all types of activities. Site-specific regulations are stated in the individual management plans for each nature reserve. Other relevant rules for nature-based tourism, concern the regulation of more common activities such as photography, in order to prevent damage to plants or animals. Additional regulations can be enforced regarding specific species. A large proportion of the seabirds in Norway meet the three criteria required for these additional regulations: negative population development, significant habitation or genetic features in Norway, and international commitment for the species.

Study area: Vardø and Hornøya

The region Varanger in Finnmark is the north-easternmost part of Norway, in the Arctic climate zone. The north Varanger Peninsula has several small fishing towns, most notably Berlevåg, Båtsfjord and Vardø. Vardø is also an old town, playing a key political role in representing Norway’s interests in the region. A town and a fortress were established on the island as early as 1307. Fishery used to be the key industry in the area, but after the collapse of fish-stocks in the 1980’s and the subsequent restructuring of the fishery sector, fishery was almost completely phased out (Frantzen, 2017). Because of this, the number of inhabitants in Vardø nearly halved between 1980 and 2000, a fall from more than 4000 to just over 2000. Since then, local governmental institutions and businesses have prioritised developing sustainable nature-based tourism as a sustainable industry, partly as an alternative to oil and gas production (UNWTO, 2018). Bird tourism has proven a successful niche in the revitalisation of Vardø. However, the town still has high unemployment.

It is in the favour of the providers of nature-based tourism products that nature is protected, since they are dependent on the natural resources. Two companies are currently transporting tourists to the island; the harbour managers employed by the municipality, and a tour operator whose products include boat tours and swimming with seabirds. Local

discussions raise the issue of whether public actor should earn money from tourism instead of letting private companies have a sustainable income. The accommodation in town consists of a few rental apartments and one hotel, which also hosts a tourist information desk. Transport opportunities to town are by flight, rental car from the city Kirkenes, or by organised bird trips, usually in buses, travelling via Finland. In addition, many visitors travel with private campervans or motorhomes.

Management plan for Hornøya

The management plan for Hornøya and Reinøya nature reserve was made in 2014 by the environmental department of the County governor. The protection status as a nature reserve is the strictest category for conservation by Norwegian law. It is therefore possible to ban all activities on the two islands. The current regulation allows traditional harvesting of eggs to a certain limit. All visitors that come to the island during the summer must follow the same rules; to stay inside the designated areas and paths. The restrictions apply in the time period from the 1st of March to the 15th of August. The nature reserve is under supervision of rangers from the Norwegian Environment Agency that have authority to give out fines.

The main management objective is that the nature reserve should be preserved in a way such that the natural features are protected. However, the plan states that the area should still be used for outdoor activities and scientific research within the conservational purposes. There should be no interference of the birds' livelihoods, including damages to their habitat. No motorised traffic is allowed, although boat traffic has no restrictions. Camping, bonfires and putting up physical installations of any kind are banned. This includes hides for birdwatching or photography. A general rule is to leave no trace and to leave nothing behind.

Aim and motivation for the study

Although birdwatching is one of the most sustainable type of tourism, it has been proven that it is harming bird life in many ways (Lorentsen & Follestad, 2014). In some cases tourism activities are a threat to critically endangered bird species (Steven, Morrison, & Castley, 2014). Green and Giese (2004) address the importance of research on tourist interactions with wildlife and the potential impacts. In order to balance nature conservation and wildlife tourism, more knowledge is needed about the visitors and birds on Hornøya. The study explores the human dimension of the wildlife experience, with a focus on the human-bird

relationship. The tourists' understanding of animals and subsequent feelings should be examined in order to find management solutions for conservation and tourism. The qualitative, socio- anthropological approach helps to increase understanding of visitor behaviour that might disturb the birdlife. I want to know more about which factors influence inappropriate behaviour, including violating the rules of the nature reserve.

The case-study of Hornøya has low external validity, since the findings are not generalisable for other bird tourism sites. Wildlife tourism is situational and is affected by regional and national conditions, as well as economic and social standards. Other variables are bird species, climate, landscape and threats, like hunting or other disturbances. However, the aim of the study is to give an insight into tourist depreciative behaviour which supports or undermines well-established theory of human behaviour. The implications for nature management and tourism can be applicable for other nature conservation areas.

Summary of findings

Wildlife watching tourism is a growing industry and can become eco-friendly if sufficient conservation measures are actively included in the operative tourism strategies. Research on visitor behaviour is necessary to evaluate and understand peoples' behaviour towards wildlife. The focus of this case-study is birdwatching tourism in a protected nature reserve in Northern Norway. Qualitative methods have been used with The Theory of Planned Behaviour as a framework. The aim of the study is *to understand visitor behaviour that may disturb the seabird on the island of Hornøya*. The research is based on 48 interviews with 61 participants, in addition to participatory and systematic observations of tourists at the island.

Interpretation of bird behaviour and the affective responses to the wildlife experience are identified as factors that influence unwanted visitor behaviour. Informants' understandings of disturbance towards the seabirds are reflected in negative perceptions of inappropriate behaviour. However, most participants believe that the birds are not disturbed by tourists, or at least not easily disturbed. However, some variation exists, and some informants think that the birds are negatively affected to some extent. The social norms support that visitors express a responsibility for respecting the rules of the nature reserve. The findings also suggest that visitors performing intentional non-conforming behaviour have not internalised the social norm, it has not become a personal norm.

The willingness among visitors for social sanctioning towards depreciative behaviour was relatively low, suggesting that stricter formal regulations may be more effective measures for reduced depreciative behaviour. The study also identifies persuasive communication through interpretive information as a management approach with potential of reducing inappropriate behaviour. Further, alternative tourism experiences of seabirds can lessen the pressure on birdlife on Hornøya, as well as creating new business opportunities.

Management Implications

Based on the findings in the study and expert advice about seabirds (Pers. comm. Tone K. Reiertsen), several measures for nature management and tourism planning are suggested. Furthermore, the suggestions are supported by extensive research about wildlife watching tourism elsewhere.

Nature management

The regulation of the spatial and temporal distribution of visitors is an effective component in designing an effective management program (Higginbottom, 2004b). As Hornøya is protected by law as a nature reserve, it already has formally established spatial zoning, limiting the area available to visitors. It is also legally possible to introduce stricter regulations to minimise the designated area for tourist traffic. In this way, visitor traffic will be concentrated and the stress on birds that nest close to paths will be limited. Moreover, the pressure on the birds can be controlled by regulating the number of tourists that are allowed on the island per day. Visits may also be banned during crucial time periods for the birds, like during the guillemots' chick-departing of the, or in the evening when the puffins come back with food for the chicks.

The most affordable and effective measure is to improve the communication of rules and proper behaviour. The information on the signs must be more extensive and describe the effects that human presence can have on the birds. Today, tourists get most of the information before leaving for the island. A large sign should be provided at the immediate arrival point of the island. This sign should contain targeted information about the nature reserve, conservation objectives and an updated map. Guidelines should be described in detail about what is illegal and inappropriate behaviour. An interpretive approach towards the visitors will likely stimulate interest and promote learning, in addition to providing a higher quality of the wildlife experience (Moscardo, Woods, & Saltzer, 2004). Interpretation

has the role of attracting the visitors' attention and creating sympathy and respect for birdlife. The focus should be why disturbances can be harmful to the birds even if they seem accustomed to people, which threatened species nest here and knowledge about their environment. Persuasive communication is about creating emotional responses that can affect attitudes and behaviour (Manfredo, 2008). Consequently, the design of information can evoke awareness among the visitors, and engage them in conservational efforts (Ballantyne, Packer, & Sutherland, 2011). The existing information about Vardø harbour, the guidelines for guides and the information signs at the harbour, as well as on the island, need to be updated and more actively developed and located to reduce depreciative behaviour.

Furthermore, the boundaries of the designated area for tourist traffic must be clear. Rope or other types of fences must be well maintained. In the case that the "soft" measures above is not enough, camera surveillance should be considered, since it can have a deterrent effect on depreciative visitor behaviour, in addition to more frequent control visits by nature management officers. Lastly, this study has identified social mechanisms for controlling depreciative behaviour that can disturb the birds. Therefore, salient campaigns about responsibility can give a message that encourages social sanctions among the visitors (Guckian, Danylchuk, Cooke, & Markowitz, 2018).

Tourism strategies

Implications for tourism facilitation are practical changes with to reduce the impact on vegetation and bird habitat. Several participants in the study wanted a platform or viewpoints where there were sure to be good spots for watching and photographing many bird species at the same time. In this way visitors might also be encouraged to stay inside the designated paths, decreasing the disturbance on the birds.

To meet the needs of the local tourism industry and community economy, the establishment of a visitor centre in the town with live video of the birds, could also be considered. In this way, a larger segment of visitors will have the chance to experience the more intimate sides of a birds' lives and their interactions with each other, while at the same time not disturbing the island. This can also be a less time-consuming and less pricy offer. Hence, Hornøya will be a greater economic resource and can create more products and activities. By differentiating the tours and ways to experience the bird cliff, businesses can earn a greater income and impose fewer negative consequences on the birds. Prices would vary between

experiences like staying on a platform and by the birdwatching shelter and trips where visitors can walk further along the path, or on the other side to the lighthouse. Additionally, tours during the early morning or late night can be more expensive, compared to the low-cost product of a boat ride around the island without going ashore. Tours with professional guides are needed, with local knowledge and good skills in conservation interpretation (Curtin, 2010a).

Significant segments of birders and photographers often rely on specialist tour operators that have high-level naturalist knowledge. Conservation of nature areas can benefit from high-end tourism (Şekercioğlu, 2002), and part of the income can be targeted to maintenance of infrastructure on the island. To conclude, my wish is that the implications for nature management and tourism are taken into account and encourage stakeholders to collaborate to conserve the unique and important ecosystem on the north-easternmost island in Norway.

References

See reference list in Part II: Article Manuscript Section

Part II Article Manuscript



Picture by Frida M. O. Jørgensen

1.0 Introduction

Birdwatching, also called avian tourism, is considered a fast-growing industry (Steven et al., 2014). A survey from 2013 (CREST, 2015) estimated that 41 billion USD are spent annually on birding in the US. Birdwatching is also a popular hobby in the UK, with 500 million dollars spent per year on equipment and birdwatching trips in Europe. Norway as a travel destination is associated with nature and is ranked high for doing outdoor activities (Innovation Norway 2018). The Norwegian Government aims to use protected areas for more economic activity without conflicting with conservation the objectives of a specific area (Norwegian Environment Agency, 2015). A sustainable tourism business in a protected area demands expedient visitor strategies and knowledge of the biodiversity and carrying capacity of the ecosystems (Bennett et al., 2017). A concrete objective is to strengthen the control of activities in the nature through information, signs, simple infrastructure and other guiding tools.

Although birdwatching can be a sustainable form of tourism, it has been proven to harm birdlife in many ways (Lorentsen & Follestad, 2014). In some cases, tourism activities threaten critically endangered bird species (Steven et al., 2014). Green and Giese (2004) underline the importance of research on tourist interactions with wildlife to understand and mitigate the potential impacts from human-wildlife interactions and human disturbance on wildlife. The tourists' understanding of animals and subsequent feelings should be examined in order to find management solutions for conservation and tourism.

The aim of this article is to gain a wider understanding of unwanted behaviour among the tourists and their attitudes towards disturbance, and the human-bird relationship. In addition, gaining insight into social mechanisms amongst the visitors is important, as well as their opinions about the management of the nature reserve. Based on the findings, management measures for tourism on Hornøya will be proposed. I have used a qualitative approach to examine and better understand visitor behaviour that can disturb seabirds. The colony is called Hornøya and is famous among birdwatchers and bird photographers across Europe. The Arctic location, sheer number of birds and various species at one bird cliff makes it a desirable tourist destination (Reiertsen et al., 2018).

2.0 Theoretical framework, objective and research question

Extensive literature about different forms of eco-tourism, sustainable nature-based tourism and outdoor recreation addresses several aspects of birdwatching (Blumstein et al., 2017). Wildlife tourism, including birding, can cause positive as well as negative impacts. On the positive side, it can raise awareness and be an incentive for wildlife protection, and in some instances also provide funding for conservation (Borges de Lima & Green, 2017b). There is also a significant literature on how tourism and recreation can lead to wildlife disturbance (Green and Giese, 2004; Steven & Castley, 2013). To understand potential negative impacts of wildlife tourism stemming from people creating disturbance to wildlife, an examination of linkage of social groups, value orientations, attitudes, norms and emotions is expedient (Manfredo, 2008).

2.1 Depreciative behaviour

The way tourists behave can disturb wildlife in many ways. Deviant behaviour can stem from formal or informal action (US Legal, 2016). Formal deviant behaviour goes against societies' formal norms and rules, most commonly expressed in laws and regulations, and can result in penalties like fines or more serious punishment. Informal deviant behaviour contradicts social norms and values which can give negative response from other people. The latter is also called 'depreciative behaviour', which is defined as behaviour that is generally legal, but unacceptable to social norms, or undesirable in specific situations or specific places (Manfredo, 1992). In other words, actions that are on the boundaries of conventional morality (Veal, 2011).

In a discussion of persuasive communication to inhibit depreciative behaviour, Manfredo (1992) adapted a general typology of undesirable visitor behaviour from Hendee et al. (1990). They operate with the following types of behaviour; illegal behaviour, careless actions, unskilled actions, uninformed actions and unavoidable actions. Another typology is based on normative violations in park settings by Gramann and Vander Stoep (1987; Manfredo, 1992). The classes are created based on the type of motivation for the depreciative behaviour; unintentional, releaser-cue (seeing others performing the behaviour, e.g. throwing litter), uninformed, responsibility-denial, status-conforming (social influences) and wilful violations.

In my study I have categorised depreciative behaviour into two main categories. Firstly, illegal behaviour; actions that are against the laws of the nature reserve (e.g. walking outside the designated area for visitors). Secondly, other deviant behaviour; actions that are legal but can be against social norms or can, based on expert judgement, be considered as disturbing birdlife. Therefore, I have named the other category *inappropriate* behaviour, e.g. standing very close to a bird or making abrupt sounds and movements.

2.2 Theory of Planned Behaviour

The theoretical framework Theory of Planned Behaviour (TPB) (Ajzen, 1991) is widely used to understand human behaviour (Fig. 1). Actions can be investigated by identifying attitudes towards behaviours; behavioural beliefs, social norms; normative beliefs, and the perceived control of performing a behaviour; control beliefs (ibid.).

One of the elements of the TPB, 'behavioural beliefs', can be divided into *instrumental beliefs* and *affective/experiential beliefs*. Instrumental beliefs give insight into people's perspectives about cost and benefits of the behaviour (Ajzen, 1991). Affective/experiential beliefs involve positive or negative feelings as consequence of the behaviour. Consequently, behavioural beliefs examine personal attitudes towards a behaviour. The 'normative beliefs' or social norms, also consist of two concepts; *injunctive norms* which concern approval or disapproval from other people, and *descriptive norms* which are beliefs derived from observing others, and thus could be seen as a behavioural standard (ibid.). Lastly, 'control beliefs' entail the influencing factors that discourage a behaviour, and the perceived control of deciding to perform the behaviour (Ajzen, 2002). In other words, factors that inhibit or facilitate an action.

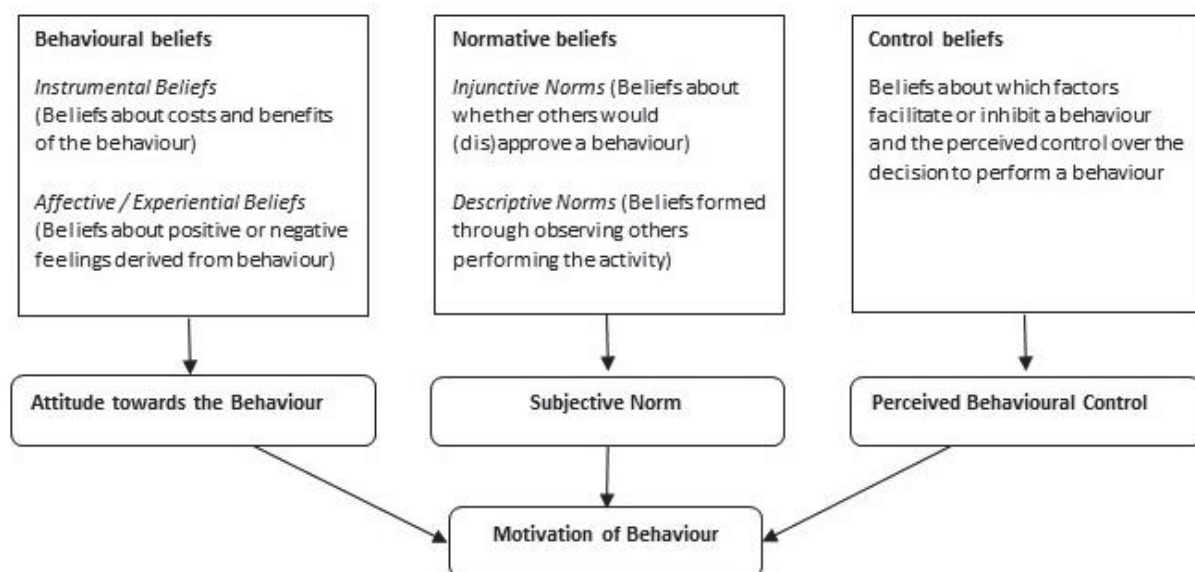


Figure 1. Theory of Planned Behaviour (Ajzen, 1991), adapted from Gstaettner, Rodger, and Lee (2017: Fig. 1, p. 3).

The theory is based on the Theory of Reasoned Action (Ajzen & Fishbein, 1980) which identifies the intentions of performing depreciative behaviour as the best way to predict unwanted behaviour. An attitude is a person's positive and negative responses towards an object, person, institution, or event (Ajzen, 2005). Personal values differ from attitudes by representing abstract ideas and are be more stable over time (Rokeach, 1973; Crick-Furman & Prentice, 2000). The hypothetical construct of attitudes is threefold, with elements of affective, cognitive and conation responses (Smith, 1947; Ajzen, 2005). Attitudes are influenced by personal traits and attributes. The affective component refers to feelings towards an object, whereas the cognitive component refers to the beliefs regarding the object, and the conative component refers to the related behaviour (Manfredo, 2008).

A norm is a rule that says something about expected behaviour. In a social group, there will always be tendencies for individuals to think and act according to the norm (Heywood, 2011). Social norms indicate what behaviour is right or wrong in a social group. In a wildlife setting, one example of a social group is catch-and-release anglers (Stensland & Aas, 2014), where the social norm is to release the fish instead of keeping it. A personal norm often involves the individual's perception of the social pressure to engage or not engage in an action (Ajzen, 2001). A person will, in general, perform a behaviour if he/she thinks that the

people closest to them encourage it. Influencing factors will be the individual beliefs about the consequences, and the priority of importance of the consequences (ibid.).

Birdwatchers can be part of specific social networks with a core set of values dictating the way they behave around birds. Nevertheless, a birdwatcher can identify with other social groups as well (Deaux, 1996; Manfredo, 2008). A visitor on Hornøya can have several roles, like being there as a tour guide and a wildlife photographer. Social groups that are based on human-wildlife views tend to self-categorise based on a “prototype” group member (Turner et al. 1987; Manfredo, 2008). Deviation from norms can lead to different forms of social sanctions (reward or punishment), for instance verbal communication or body language. If a person acts in contradiction to a social norm, the punishment can lead to negative feelings like guilt and shame (Heywood, 2002). This is a type of informal sanction imposed by other people. In comparison, formal sanctions are structural regulations that are made by authorities or organisations which can lead to fines or other forms of societal punishment (Heywood, 2011).

An example of a nature-based study that applied TPB as a framework was about unwanted tourist behaviour in West Australia (Gstaettner et al., 2017). The case-study monitored tourists who walked over a water-covered sandbar during dangerous water- and weather conditions. Some of the findings were positive attitudes of performing the behaviour, even though some informants knew about the dangers (behavioural beliefs). Seeing other people walking across, made them think it was safe (normative beliefs). In addition, many interviewees legitimised performing the behaviour on the basis of self-reported knowledge and swimming capabilities (control beliefs).

2.3 Human relations to animals

Literature interprets 40,000 year old art and indicates that humans have been thinking about animals in social terms for a long time (Mitchen, 1996; Manfredo, 2008), where humans were “*seen as animals and animals as humans*” (Manfredo, 2008, p. 38). Human relations to animals have several disciplinary approaches, among them ecology, ethics and psychology (Reynolds & Braithwaite, 2001). Biophilia (Wilson, 1984) is the original thought that humans have an innate longing for contact with other living beings, biologically explained that it is stored in our genes. Wilson (1984) argued that the human psyche is negatively affected because of the serious decline in global biodiversity. Thus, biophilia can be used as a

hypothesis for conservation ethics, but also other values like a utilitarian view of wildlife (Manfredo, 2008).

Science holds other expressions of biophilia, however, sympathy for animals is criticised to obstruct rational decision-making. The 'anthropomorphic' attraction towards animals is said to be a romanticised, ethno- or anthrocentric view of animals (Bulbeck, 2005).

Anthropomorphism alludes to personifying animals and comparing human and animal behaviour. Human attributes are imposed upon the animals observed, like a mirror for ourselves (Curtin, 2005). Manfredo and Teel (2008) explain this as being a part of a shift in value orientation where humans have moved from a value of mostly dominating and controlling animals, to a more mutualistic view.

An experiential view of peoples' wildlife tourism experiences takes other various psychological dimensions into account. For instance, the dimension of empathy for animals, including the feeling of connectedness (Donovan & Adams, 2007; Bertella, 2016). The visitor's sensory experiences are also explored, in addition to emotions, thoughts and behavioural responses (Ballantyne et al., 2011). Jóhannesdóttir (2010) proposes that personal emotions influence evaluations of the aesthetic value of nature, as it is subjective and relative.

Affect relates to a person's immediate emotional negative or positive responses in a situation (Svartdal, 2018, 20.02). An emotion refers to the specific feelings that arise, and which effects the emotional experience has on thoughts and behaviour. For instance, a wildlife tourist that encounters an animal might shout in excitement and go closer, or scream in fear and run away. In psychological theory, the concept of emotion and cognition differ, among other reasons because *"Emotions have an effect on behaviour that is independent of thoughtful processing"* (Manfredo, 2008, p. 58). During personal moral decisions, e.g. a violatory act toward an animal, emotions can be the main basis for evaluations, in contrast to cognitive processing (Green & Giese, 2004; Manfredo, 2008). An illegal act may not be wilful, since a behaviour can be ruled by happiness over nearly taking 'the perfect picture' of a bird, and therefore moving closer towards it without thinking about the consequences or rules.

2.4 Categories of visitors: specialists and generalists

Outdoor recreationists and tourists are diverse, and vary in their behaviour, experience preferences and past experiences. Additionally, the centrality of an activity in their life, such as birding, varies significantly. The concept of specialisation is a common concept used to segment tourist and recreationist segments or subgroups (Bryan, 1979; McFarlane, 1994). Specialist categories of birdwatchers are beginners, listers or 'twitchers', and advanced birders. While a self-classification measure of birdwatchers (Scott, Ditton, Stoll, & Eubanks, 2005) resulted in the categories "committed birder", "active birder" and "casual birder". Cole and Scott (1999) differentiate two segments of wildlife tourists as serious birders and casual wildlife-watchers. Their study showed that the serious birders largely planned trips with specific bird species in mind, whereas the casual wildlife watchers liked spending time in nature overall and not birds exclusively (ibid.). Several of the participating birdwatchers focused on the aesthetic dimension of the birds and observing bird behaviour. The photographer segment also differed in the level of specialisation, commitment to developing skills and motivations (Bryan, 1979; Scott & Shafer, 2001). The motives for taking a photo for my informants vary from participating in a photo competition, for later personal enjoyment, sharing with family and friends, or using the photos for educational purposes. A generalist tourist on the other hand, often does not have a specific goal for their visit.

I applied a simplified framework to categorise the visitors at Hornøya, namely specialists and generalists. There are different definitions and conceptualisations of recreation specialists, like "casual wildlife watchers" and "serious birders" (Cole & Scott, 1999). However, my two rough categories are as such a simplification, and not based on in-depth analysis of key dimensions of "specialisation" as operationalised in the literature cited above. A specialist is a person that has birds and birding as a central part of their life (Bryan, 1979; McFarlane, 1994). The specialists on Hornøya either had birdwatching or bird photography as a serious hobby, or significant experience with both activities. This finding echoes Curtin's study (2010b) of serious wildlife tourists. Specialist tourists tend to use more money on trips, bring more advanced equipment, and have higher education (Martin, 1997). The birdwatchers on Hornøya had high-quality binoculars and telescopes. Bird photographers on the other hand can be recognised by big cameras with long lenses, camera stands and camouflage clothing.

Nevertheless, it is important to be aware that serious wildlife tourists also differ in levels of engagement and experience.

In my study, a generalist was either travelling in the area and happened to come to Hornøya more or less as a coincidence, or joined their specialist friend or spouse. Some of the informants in this category were also a part of a birding group trip but had recently discovered birds as a new interest and had no prior experience with birdwatching. In other terms this group can be called novices or non-specialists (Martin, 1997). Common to the generalists were that they spent approximately 1-3 hours on the island, not as as the specialists. Typically, they had a passion for nature in general, and so were satisfied with observing the birds after a short time. They also cared about the climate but did not have much knowledge about birds specifically and their environments. On the other hand, the specialists had a deeper understanding of seabird ecosystems and had good skills in identifying different species. This is in line with Cole and Scott's (1999) argument that casual wildlife watchers in general know less about wildlife and local habitats than serious birders.

2.5 Research question and objectives

The overall research question is: *What explains depreciative tourist behaviour towards seabirds at Hornøya?*

The aim of the study is to get a better insight into the visitors' interpretations of their meeting with the seabirds and factors that influence unwanted behaviour. I have divided the research questions in four sub-objectives;

1. Explore human-bird relations and perceptions of disturbance

- a) How do the visitors experience the seabirds?
- b) What is the visitors' understanding of their disturbance to seabirds and how do they interpret bird behaviour?

2. Investigate behavioural and normative beliefs among the tourists

- a) Which attitudes and social norms are expressed concerning deviant behaviour?
- b) To what extent do social mechanisms correct tourists' behaviour?

3. Examine control beliefs of depreciative behaviour

- a) How can perceived behavioural control be understood in the context of Hornøya, and what are the visitors' preferences for tourism and nature management?

4. How do independent observations of tourist behaviour support or undermine the empirical interview data?

In addition, based on the findings, I propose concrete management measures for Hornøya as part of a visitor strategy that seeks to protect seabirds and at the same time to promote sustainable birding experiences.

3.0 Methods and Study area

3.1 Study area

The study site is Hornøya on the north-easternmost point of Norway. It is a popular tourist destination and famous among birdwatchers and bird photographers in Europe. The sheer number of birds, diversity of species, and the possibility of close proximity to the birds makes it a desirable place for wildlife tourism (Reiertsen et al., 2018). A maximum of 10-minutes will get you there by boat from the town of Vardø. Visitor numbers have had an exponential increase every year. 1700 registered persons were brought to the island in 2016 (ibid.).

Hornøya and the neighbour island Reinøya are nature reserves. Several of the seabird species breeding on Hornøya have healthy population trends and are doing better than other places along the Norwegian coast, due to its adjacency to the highly productive Barents Sea. For example, the common guillemot population on Hornøya has been steadily increasing since the mid-1980's (Erikstad, Reiertsen, Barrett, Vikebø, & Sandvik, 2013) while it's been decreasing in several other colonies. However, both the large gulls and the kittiwakes are steeply decreasing on Hornøya, following the same pattern as their co-species along the coast (Sandvik et al., 2014).

The nature reserve is protected according to the Norwegian nature diversity act. A management plan was made in 2014 on behalf of the County Governor. It states that walking is restricted to specific designated areas and paths from 1st of March to 31st of August (Martinussen, 2014). In the summer of 2017 a boulder fell from the cliff and down

onto the previously open, and highly popular walking path up to the lighthouse (Rostad, 2017). Hence, tourists after 2017 have been more restricted than previous years. Although the designated areas are marked with signs and ropes, some visitors do not abide to the rules.

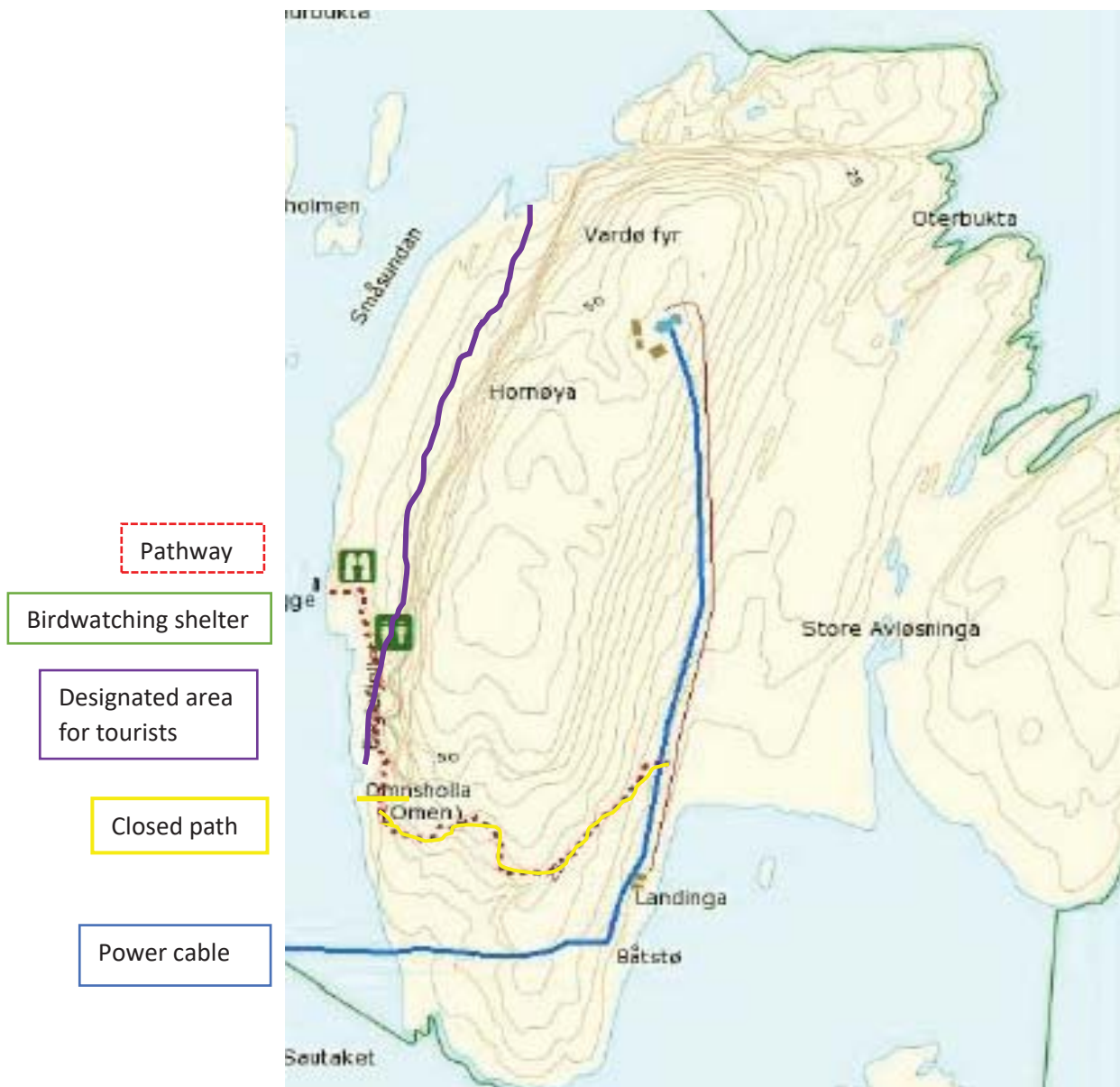


Figure 2. Map of Hornøya showing relevant infrastructure. Adapted from Martinussen (2014).



Figure 3. Main area for birdwatching showing the arrival point of the stairs to the dock (up left), birdwatching shelter and a part of the boundaries where most visitors are standing (right).

Photo: Frida M. O. Jørgensen

3.2 Data collection

The methodology of the study is a combination of semi-structured, qualitative interviews and observations of tourist behaviour. The fieldwork was carried out over 20 days from mid-May to the end of June 2018.

The selection of participants was done by asking all the visitors I met, except for those who avoided the birdwatching shelter which functioned as a base station. Consequently, the informants represent a selection of various types of visitors with diverse backgrounds.

Semi-structured interviews

The interview-guide (Appendix 1) was designed with Theory of Planned Behaviour (Ajzen, 1991) as a framework. Relevant questions were developed by adapting the approach to TPB by Gstaettner et al. (2017). With adaptations, the interview guide had questions related to five main themes; background information, human-bird relation, behavioural beliefs, normative beliefs and control beliefs. Informants were predominately interviewed individually. Overall, 61 persons were interviewed in 48 interviews. Ten of the 48 interviews were with two or more people (seven performed in pairs and three interviews with a group consisting of three or four participants). A majority of 47 were men, while only 14 were women. The interviews were most often done in English, but also in Norwegian when the

informants were Norwegians or Swedes. Duration of interviews varied between 9 and 29 minutes, with 10-19 minutes being most common, although some participants wanted to do it together with their partner or with friends.

Systematic and participatory observation

In addition to interviews, I have conducted observations. Both a structured approach and participatory observation have been applied (Veal, 2011). The systematic observations were based on three different locations (Appendix 2), most probably hidden for the visitors. Duration and time of the day varied according to the frequency of arriving boats. I stayed at one location for 1-1.5 hours for five days, in total approximately 7 hours. The participatory observation lasted 16 days and took place at the same setting as the tourist interviews if none of the visitors had the time or desire to be interviewed. If so, I stayed present and pretended to solely enjoy the views, an 'incognito' role (Veal, 2011). Influencing factors on observation time were weather, transport opportunities and visitor numbers. The observations were registered by either field notes or sound recordings, and further transcribed in verbatim.

3.3 Data analysis

Verbatim transcriptions of the sound-recordings from interviews and field memos were analysed in the program ATLAS.ti8 (Scientific Software Development). The qualitative data analysis tool made it easier to code, categorise and etch out concepts of meaning. Furthermore, networks of code groups effectively identified linkages between the empirical results (Sirakaya-Turk et al., 2017). A pattern emerged so that the most relevant quotations of the research participants were selected. Salient visitor responses were chosen to add meaning to theory and undermine or support additional observations in a hermeneutical manner (Kvale & Brinkmann, 2015). Furthermore, an intensive analysis (Merriam, 1998; Mehmetoglu, 2004) was continually used. Interpretation can identify explanations for visitor behaviour, whilst the explanatory process seeks to understand patterns of behaviour (Veal, 2011).

3.4 Reliability, validity and ethical considerations

Explorations of peoples' attitudes, behaviour and beliefs are useful in understanding human-wildlife relations. I evaluate the qualitative data to be of internal validity, as it is

representative for the phenomena of seabird tourism at Hornøya (Drury, Homewood, & Randall, 2011). It includes the perceptions from various types of visitors and aims to understand intricate human behaviour in a complex setting. Additionally, other researchers have been involved during the fieldwork and analysis process, from nature- and social sciences. The study findings cannot be statistically generalised, however they might have analytical and conceptual implications to similar cases.

Accurate verbatim transcriptions of the interviews provide qualitative data that strengthen the understanding of perceptions and relationships in conservation research. The narrative presentation of the interviews strengthens the reliability of the study. On the other hand, nuances in communication between the researcher and informants might be lost in translation. A challenge of the study's qualitative method, is that opinions and perspectives of interviewees risk to be taken out of their context (Coffey & Atkinson, 1996; Mehmetoglu, 2004). However, presenting quotations in a narrative structure, can prevent a de-contextualisation of the informants' perspectives (Kvale & Brinkmann, 2015).

Objectivity has been important, so interviews were conducted with care to prevent biases, and ethical considerations were assessed. First and foremost, the interviewees were informed of the aim of the study. All the data from interviews and observations were anonymised, and visitors are unrecognizable in photographs. Part of the observation was done in secrecy, which raises the question of peoples' right to privacy. Although, I did not combine the role of research and supervision, and did not correct or react to depreciative behaviour. The method can be legitimised because the visitors' behaviour would probably diminish the quality of the research if they knew someone was watching them.

Limitations of the study could be an uneven distribution of visitor types among the interviewees. A comparative quantitative survey could cover a larger number of visitors, and thus a more representative selection, which might identify other aspects or contradicting findings to this case-study. The data from group-interviews have weaknesses as peoples' answers are influenced by each other. The reasons for the plural-interviews were; one of the participants wanting to translate for the other person, a group having limited time at hand, or a person not wanting to do the interview alone. Of 48 interviews, seven were performed in pairs and three with three to five participants.

4.0 Analyses

4.1 Overview data material

Sample characteristics

Of my 61 informants, 10 people had visited Hornøya previously. 47 of the 61 participants were men, while only 14 were women. The gender difference can be assumed to be representative for the general group of visitors on the island. The following table is an overview of the numbers of tourists grouped as generalists and specialists.

Table 2. Nationality and type of visitor.

Type of visitor	Nordic Countries ¹	East-Central Europe ²	Great Britain ³	USA	Australia	Sum
Generalist	11	9	3	2	0	25
Specialist	10	23	1	1	1	36

¹ Finland, Norway, Sweden, Denmark

² Poland, the Czech Republic, France, Switzerland, Austria, Germany, the Netherlands, Spain, Belgium

³ England, Wales, Scotland

The highest total number of visitors were in the specialist segment, which includes guides, birdwatchers- and photographers. The largest groups were from East-Central Europe and the Nordic countries. The majority of specialists came from East-Central Europe. The Nordic countries had an even distribution of generalists and specialists.

Types of deviant behaviours observed

Observations of the visitors resulted in various findings. The incidents are made up of two concepts of deviant behaviour; illegal acts and inappropriate behaviour (potentially disturbing the birds).

Illegal behaviour

- Crossing ropes marking the border for the designated area
- Passing stop signs delimiting the area between tourist visitors and birds
- Passing both stop sign and crossing the rope at the same occasion

- Passing the sign and fence of the closed path



Figure 4. Various types of tourists staying within the borders of the designated area for birdwatching marked by ropes and signs. Photo: Frida M. O. Jørgensen

Inappropriate behaviour

- Loud noises and abrupt movements near birdwatching shelter
- Walking/staying near the seaside, close to birds on sitting on the rocks
- Moving the camera-lens close towards a bird
- General disturbance of nesting birds by the birdwatching shelter
- Leaving a trace (i.e. rubbish, waste)

Table 3. Overview of observed depreciative behaviours based on the number of incidents, thus one visitor can represent several behaviours.

Type of tourist	Illegal behaviour	Inappropriate behaviour	Sum
Specialist	15	16	31
Generalist	6	7	13
Sum	21	23	44

Visitor experience

The analysis identified clusters of meanings through interpretation of interview data. Figure 5 visualises six main concepts that categorise the participants' answers; firstly, bodily experiences, secondly feelings that arise, and thereafter descriptions of close encounters with a bird. The fourth concept, 'anthropomorphic tendencies' includes statements about personification and giving the birds human attributes. The last concepts are thought and reflections, and landscape references.

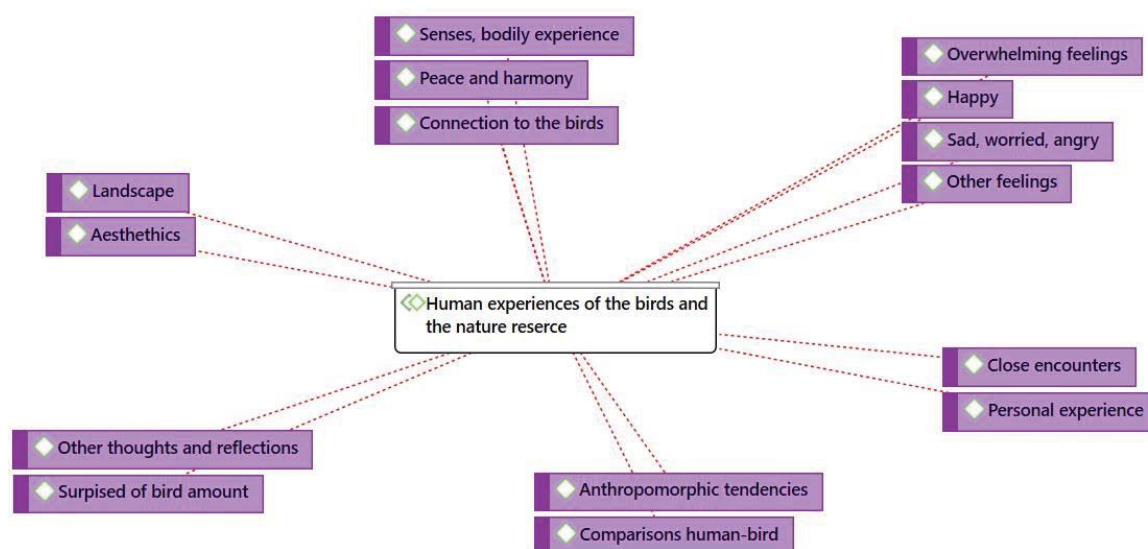


Figure 5. Concepts of the human wildlife experience of the birds and the nature reserve.

4.2 Perceptions of human-bird interaction and disturbance

Experiential view of wildlife encounters

How do the visitors experience the seabirds?

Many visitors experience the seabirds as beautiful, interesting and as having individual personalities. The informants describe their experiences of the seabirds with words such as unique, magnificent, sensational, incredible and wonderful. Some of the informants struggled with finding the right words because they say they felt overwhelmed and surprised at the sheer number of birds. Like the findings of Hill, Curtin & Gough (2014), the encounters were characterised by contrasts, as feeling peaceful but also excited at the same time. These ways of describing the impressions are typical for tourism wildlife experiences (Curtin, 2005). Furthermore, the impressions appealed to multiple senses and affected them emotionally. An American tourist explained her reactions like this:

“Oh, it’s overwhelming! My senses are overwhelmed. Just, you know, kinda gleeful! I was in glee. So many birds. So many birds and then the beautiful landscape, the village right there, the water, the mountain.” (Woman, USA, generalist #42)

She also refers to the surrounding landscape. Central unique features mentioned were the weather, light of the midnight sun, the lack of trees and the vast horizon. Examples of multiple sensory stimuli were loud noise from the birds, strong smell of guano and the impressive sights of thousands of birds in the air at once. One informant said it was overloading her senses and that she was touched by it. According to Jóhannesdóttir (2010), experiences of high aesthetical value to the beholder inspire people to reflect on human-nature relationships. Thus, deliberations of landscape can assist in exploring beliefs about the concept of self and meaning in the world. Visitors’ personal experiences furthermore fostered an appreciation and valuation of the natural surroundings, which gave the informants negative and positive feelings (Ballantyne et al., 2011; Hill et al., 2014). One visitor said that he felt hurt and worried, because the bird island reminded him that many coastal areas in the world did not have such abundance of food resources. In this context several informants also showed a motivation to share the experience with others.

"It makes me feel like lifted. I mean my work and my passion is exactly this – it's bird and ecology and wildlife, and doing education with people, including children - to try and help them appreciate. Firstly, enjoy, open their eyes. And secondly, understand how everything connected and linked." (Woman, Australia, birdwatcher #28)

Similarly, a Swedish tourist expressed the need for human presence in vulnerable ecosystems. He thought that it is necessary to observe the birds in case their conditions and breeding success change negatively. A birdwatcher pointed out that humans are responsible for protecting biodiversity and continued to speak about nature's intrinsic value:

"I'm always interested to see a bird. Seeing them behave in their environment is... I like that. I love that I really would say! That's always why I come here. And it makes me consider that they are sensible beings. They have the right to live on the earth as us, not less!" (Man, France, birdwatcher #52)

Exploring human-nature relationships helps to set a focus on intangible environmental attributes that are often ignored when the value of nature has to be measured in a concrete matter (Jóhannesdóttir, 2010). Another birdwatcher added that it is important to understand how birds behave. He thinks that the birds are intelligent and not so different from humans. Some informants would see facial expressions in the birds and give them human attributes. For instance, by comparing the noise and the buzz of the kittiwakes with the quarrelling of people living in an apartment building, or the courtship of a male and a female to a Mexican soap opera.

One of the reasons why people are attracted to observe animals in their natural habitat, is because it can create a feeling of well-being (Hill et al., 2014). The informants talked about experiences that made them feel peaceful, calm, in harmony and that cleaned their minds, which refer to therapeutic effects (Curtin, 2009). The term 'humble' is repeatedly mentioned, to explain that the informants were grateful to be a part of the birds' universe. Empathy and the feeling of connectedness (Donovan and Adams, 2007; Bertella, 2016) are also a significant part of this, illustrated by:

"If you get more into it, you feel more connected. And immediately, for me, you get more respect for it. So, more understanding, more awareness and more respect for it,

for them being there and everything being here, myself included.” (Man, Belgium, beginner birdwatcher #67)

Using the binoculars or telescope helped visitors to experience intimacy with individual birds. According to Bulbeck (2005) tourism has a history of romanticising nature. One aspect being that reactions to nature lead to powerful personal experiences (Oelschlaeger, 1991; Bulbeck, 2005). The anthropomorphic thinking made some visitors in the study reflect on mankind. Humans also seek contact with animals to satiate a curiosity, with the goal of observing the aesthetics or behaviour of the birds. Jóhannesdóttir understands this as *"finding beauty in the other in this deep and rich way which allows one to open up to the other (and) is thus a key to forming meaningful relations"* (Jóhannesdóttir, 2010, p. 198).

Tourist evaluation of birds and stress

What is the visitors' understanding of their disturbance to seabirds and how do they interpret bird behaviour?

The dominating interpretation of disturbance, according to my informants in the case of seabirds at Hornøya, was if the birds showed clear changes in behaviour.

"I would define [disturbance] if we were having an impact on their behaviour. If a bird looks all stressed, moving away or has flown away because you've come fast, I would call that disturbance. If you're preventing a bird from getting back to its nest as well."
(Woman, England, birdwatcher and guide #19)

Similarly, a French birdwatcher says; *"The definition of disturbing birds is if a bird leaves its nest because of us"*. Consequently, a majority of the tourists showed a tendency to interpret bird behaviour in a way that an absence of clear behavioural changes meant no disturbance. However, when the seabirds perceive danger they must evaluate the cost-benefits of flushing away if they feel threatened, or enduring the stress and staying with their egg or chick (Reiertsen et al., 2018). Thus, negative effects of disturbance can be hard to see, for instance when stress hormones are increasing in the bird. A bird can also be prevented from performing key life behaviours, like mating, feeding the young and resting (Green & Giese, 2004).

Many of the informants were positively surprised that the birds were so close. In line with the findings in a study of whale tourism (Bertella, 2016), not many tourists were worried about the short distance to the animals. Most of the informants did not think that the birds seemed scared or disturbed. A representative description of meetings with a bird encompassed trust between bird and man; *“It looks like they trust me”* (Man, the Netherlands, birdwatcher and photographer #38). Nevertheless, some informants had a more nuanced way of thinking about disturbance. As one expressed it;

“It’s not easy to answer this. Maybe you [divide it] between slight disturbance and hard disturbance. The hard one is when you try to touch them and maybe the birds react really aggressive and they maybe leave their nest.” (Man, Germany, birdwatcher #20)

Some also expressed the opinion that even if there is some disturbance, it is not doing too much damage. From their point of view, they evaluated the birds as being used to people coming there. Therefore, they believed that it would not cause any serious or negative, long-term effects. On the other hand, a couple of people thought that the birds were disturbed, but that it was hard to see.

“I am quite sure that when so many people come to the island there is a kind of stress from humans onto the birds. We don’t see it [...]. It seems like it’s okay, but I’m sure it’s not okay. If no one were going to the island, you would have a completely different behaviour from the birds.” (Man, Denmark, birdwatcher #70)

To understand why many informants did not believe that the birds were disturbed, it is relevant to consider how people interpreted bird behaviour. A repeated explanation for this was that the birds are not bothered by the visitors and seem busy with their own lives. A young Austrian birdwatcher described that the birds *“look like they control the surroundings all the time”* (#14), and therefore are comfortable with people being around. Some informants underline that the birds have become used to people over time. When an animal becomes habituated, it learns not to respond to disturbance, which can make them bolder and more vulnerable to predation (Reynolds & Braithwaite, 2001). One perspective is that the birds do not look at humans as a threat, as opposed to natural predators like the White-

tailed Eagle (*Haliaeetus albicilla*). In addition to stress from predators, a few informants reflect further:

"I don't think they are stressed because of the humans. I think they are stressed because of themselves. There are so many birds" (Man, Denmark, generalist visitor #70).

Similarly, *"(...) they also interact with each other also in a negative way. Just like a bit of fight. And so the humans don't have a big impact here"* (Man, Austria, young birdwatcher #14). One tourist from Germany thinks that the tourism and birds on Hornøya are in

harmony and that the humans do not impose any negative pressure onto the birds.

Informants who believed that tourism stresses the birds to a small extent, thought that it is a very small part of their life, and therefore is not causing significant negative consequences. A Dutch birdwatcher said that he thought tourism is not an advantage for the birds, nor a disadvantage. Whereas, a Norwegian tour operator points out that there is some disturbance that affect the birds nesting on the ground. One participant finds it hard to believe that someone intentionally wanted to hurt the birds and that *"it's just a matter of people controlling their excitement"* (Man, USA, bird photographer #61). This quotation might be an example of a visitor with over-excitement;

"So wonderful to see the birds nesting close! The shag there is exceptional because he doesn't care, haha! We were standing right next to him." (Man, Wales, birdwatcher and guide #16)

Most of the tourists involved in the situation next to the bench would not step away but stay, some even leaning further in on the birds to take photos. An informant that has been to the area many times told about incidents where visitors were too eager to get close to the birds. This raises the question of whether people deliberately act against the rules, or are oblivious to the guidelines and the harmful effects of their actions (Manfredo, 1992). The empirical results show a tendency among the informants to anthropomorphise bird behaviour in a way that dismisses disturbance as an issue. Manfredo (2008) identifies the issue of emotions dominating human-animal relations. If people interpret birds' reactions purely by effect, it can overthrow the rational scientific way of evaluating consequences of human presence. The following visual network (Fig. 6) is a summary of the various concepts

in this chapter. The figure shows linkages between bird responses and the participants' opinions about disturbance.

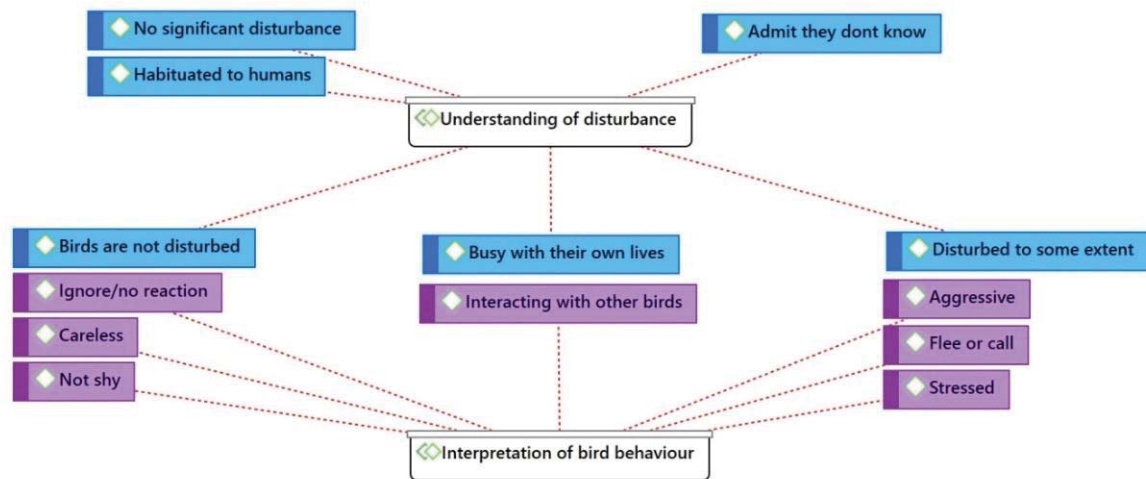


Figure 6. Emerging themes of the informants' perceptions of disturbance on birds and bird behaviour.

4.3 Behavioural and normative beliefs

Attitudes and norms

Which attitudes and social norms are expressed concerning depreciative behaviour?

The crucial part of an attitude study is to identify the attitudes towards the objects and the behaviours in question (Manfredo, 2008). In the case of Hornøya, the objects are the seabirds, and the behaviours are acts that may disturb the birds. The attitude-behaviour relationship is dependent on several criteria and requires exploring the specificity of the attitude (Fishbein & Ajzen, 1975; Manfredo, 2008). The four levels of specificity are action, target, context and time. For instance, 1) action: visiting a bird island, 2) target: experiencing the seabirds, 3) time: between May-August, 4) context: at Hornøya in Northern Norway. The attitudes toward disturbing birds in the study are largely negative, meaning that visitors view inappropriate behaviour as something one should not do. In contrast, the case-study of unwanted tourist behaviour (Gstaettner et al., 2017) found the attitude towards the

behaviour mainly to be positive. The studies differ by actions towards wildlife, versus risky behaviour that have consequences primarily for the visitors' own safety.

Although many of the interviewees at Hornøya evaluate disturbance of birds as bad, the degree of seriousness varies. As we saw above in chapter 4.2, several informants interpreted the birds generally not to be disturbed. Other informants had different perspectives;

"Many of them [birds] were quite clearly concerned of us three walking along the path close to the nest. So, that's one of the reasons I didn't go as far as you can go at the moment. Because I thought this doesn't feel right. Their behaviour changed when I got close to them." (Woman, England, birdwatcher and guide #19)

Her statement reflects an attitude based on the affective component, in which evaluations are influenced by feelings derived in the moment (Ajzen, 2005). Others took a neutral stance by saying disturbance of birds is unacceptable, but that on Hornøya, birds did not seem to care about humans. The findings of a study about avian tourism in Central-Europe (Jiménez, Lemus, Meléndez, Blanco, & Laiolo, 2011) showed that birds were habituated to human activity in the vicinity. However, colony-breeding seabirds react differently than the species monitored in the Cantabrian Mountains. The somewhat neutral attitude towards disturbance of birds can be a cognitive response to a lack of knowledge about highly complex topics such as understanding stress responses among seabirds in a colony (Manfredo, 2008).

'Working knowledge' is a characterisation of attitude strength, which represents the prior information a person holds to analyse the object (Manfredo, 2008). Self-reports by participants were that they had extensive knowledge about bird species and knew how to view them so that they did not flee. Although, even some visitors that were seemingly specialists in the field, admitted that they were not sure about the consequences of birdwatching or photographing. A few informants admit that they think it is acceptable to challenge the guidelines to some extent. People can be more open to perform depreciative behaviour if they have broken the rules before (Manfredo, 2008). Thus, this attitude can be placed in the category of the conative component, which refers to related behaviour, i.e. prior experience (Ajzen, 2005).

The strength of attitude varies, depending on intensity and consistency (Manfredo, 2008). On the other hand, values are unchanging and direct attitudes and norms. The dominant norm expressed among the interviewees is that one should respect nature and be careful so as not to disturb the birds. Common opinions are that the birds should come first, and visitors must keep their distance.

“Realistically I would like to hold the bird in my lap and kiss it and cuddle it. But I’m not going to. It’s not respectful and it’s terrible, it’s horrible. But I think most people are trying to follow the rules.” (Woman, USA, generalist #42)

The woman refers to the word ‘horrible’ and indicates that feelings are involved in her thought process. This is a telling example of how different feelings and more knowledge-based assessments sometimes can be in conflict. Emotions can dominate if social norms are ignored (Manfredo, 2008). For instance, a Norwegian guide felt uncomfortable if a bird came too close him, because he did not want to disturb. Theory points out empathy as a *moral emotional process* during the human-animal interactions (Tangney, Stuewig & Mashek, 2007; Manfredo, 2008). Therefore, feelings deriving from norms, can also serve as a motivation to avoid disturbing behaviour. Furthermore, an ecologist visiting Hornøya talked about moral responsibilities.

“We are here to, well, I see it as a privilege to be here, and the birds have to come first. We have to look after them and their habitat.” (Woman, Australia, birdwatcher #28)

Several participants also talked about moral obligations; like one cannot always do what one wants. Other expressions for social norms were that one should respect the physical boundaries of the designated area, walk slowly and be quiet. Norms function as moral and ethical leads about what is appropriate behaviour (Ajzen, 1991). In this tourism setting, the social norms are “[...] *guidelines for interpreting a situation and choosing among various behavioural alternatives*” (Manfredo, 2008: 116). Consequently, it would mean that in a meeting with a bird these norms will be activated and influence the choice of action, for instance, to step back if a bird suddenly comes close. The injunctive norms, in this case ‘what *should* be done’, were important for the interviewees. In contrast, the visitors interviewed about crossing the sandbar in the tourist site of Penguin Island (Gstaettner et al., 2017)

focused on the descriptive norms (i.e. 'what others *do*'). In contrast, my empirics has limited information about descriptive norms. However, a couple of informants reported that other visitors would probably copy inappropriate behaviour if they saw another person doing it (ibid.).

To understand more about the social aspects, it is useful to examine the informant's perceptions about the other visitors. Firstly, tourists are categorised in groups; 'the typical tourist', the bird photographer and the birdwatcher. A 'prototype' of a group member is created, from which emanates the beliefs for the group's behaviour (Turner e al. 1987; Manfredo, 2008). The typical tourist is seen as a person with little prior knowledge about birds and limited experience in nature. In addition, the quality of equipment is mentioned.

"Many people don't have big lenses, powerful binoculars. They feel like they need to get close and will overstep. I haven't seen it happening here though." (Man, USA, bird photographer #61)

On the other hand, bird photographers are known to have advanced, expensive cameras. This confirms Curtin's (2010b) findings that 'serious wildlife tourists' self-representations entail high skills, intellectual capital and advanced equipment. This visitor segment also differed in clothing and behaviour. One of the questions in the interviews about normative beliefs entails which type of visitor the informants believed would cross the boundaries of the designated area. Since many interviewees thought most, or all the visitors on Hornøya respect the birds, the other empirical data is from a few people and very specific. Bird photographers are picked out as one of the tourist types that sometimes goes against the norms.

"Some photographers might get closer and closer, because they want the perfect shot, not the experience of the bird itself. They want a shot of the eye or something like this. [...] If they are birdwatchers too, they often learn how to behave and to know the line." (Man, Austria, birdwatcher #14)

A few other statements are also about photographers having a clear motive to approach birds, and that they therefore can be more willing to challenge norms in order to achieve that. Generalist visitors were also accused of disturbing the birds by going too close, but because they did not have good enough cameras. Despite stereotypic beliefs about visitors,

a person can have multiple roles, which could change the outcome of an individual's behaviour (Deaux, 1996; Manfredi, 2008). A visitor can be both a birdwatcher- and photographer, which probably will affect behaviour. In addition, photographers have methods to get good pictures that add nuances to the expressed negative beliefs about this visitor segment.

"A photographer or bird photographer, we need to be closer. So it's a different way. We can spend much more time on one species to get enough time to be closer enough, or to hide ourselves. So often we need to hide or get some installation. As birdwatcher you can stay far away, they don't really need a hide." (Man, France, guide and bird photographer #13)

This quotation refers to temporal and spatial patterns between the different groups. A 'normal' tourist would move all around the area to explore, while a bird photographer might stay in one spot for a long time, too close to birds. On the other hand, birdwatchers use binoculars and telescopes to observe the birds at a safe distance. They can stay in one place and observe all the species they are looking for. The way of dividing people in simple stereotypes are also prominent in answers about how other people would react if they went outside the designated area, which leads on to the objective about social mechanisms.

Social influences

To what extent do social mechanisms correct tourists' behaviour?

During the interviews the tourist tended to give blunt answers to the questions about normative beliefs, if they wanted to say anything at all. Many hesitated to express their opinions about what they think about others disobeying the rules. A handful of informants reported observations of what they considered as inappropriate behaviour. Most of the situations had happened near the shelter with nesting birds under a bench. The persons were clear that people should not sit there when they see that the birds want to come back to the nest. On the other hand, very few said they would go over to someone and tell them off. A Norwegian guide said that people are reluctant to express discontent. Therefore, he suggested a person with proper authority to be present in the tourist area of the island. One reason for the reluctance can be that people are not comfortable to confront others.

“A lot of people will say something about it, but not to the person. [...] And people breaking rules are mostly people that are a bit more stronger and a bit more assertive, aggressive. We probably could, but we should react to it more often.” (Man, Belgium, generalist #67)

Insecurity is therefore one factor, in addition to a belief that the type of person who would go past the fence or signs does not care about rules at all. Thus, these informants found reprimands as an uncertain response, which could lead to other types of uneasiness. Theory points out verbal sanctions as important to create a culture of appropriate behaviour in a conservation context (Guckian et al., 2018). The type of informal sanction can come in different forms of communication, like a scornful glance or a verbal admonition (Blake & Davis 1964; Heywood, 2002). The goal is to make the receiver, or receivers, uncomfortable.



Figure 7. This incident shows two visitors (marked with red) violating the rules by going outside the designated area, while another person is watching them (marked with yellow).

The situation of Figure 7 displays two visitors performing depreciative behaviour with another person present. Further observation did not detect any close verbal interaction between the three. A German beginner in birdwatching elaborated further on the absence of addressing other visitors.

“Most of them they would do nothing. Just see this and don’t like this. Maybe talk about it; “oh, he is doing that and that”. (...) I heard about guides being present and some people might tell this to the guides.” (Man, Germany, birdwatcher #20)

The tour guides that have been on the bird island many times before felt an affiliation to the place, thus a larger responsibility to react on inappropriate behaviour. Although, they admit that it is also based on personal gain.

“For us - it is our business, so we need to keep the birds (...) on the right place! If it disappears our business is over! So, we have direct interest to make sure that the birds will stay here. For customers we are quite strict. We explain them the rules and we say “Oh, we don’t go further than this place”, or where there is no fence we say “Okay, see, we are disturbing, so we move back.” (Man, France, guide and bird photographer #13)

One observation I made was that some guides also reacted on other visitors that were not their own customers, clearly showing discontent and strong body language. Another tour guide confirmed and added that he always shouted to people that were disrespectful. Also, an American tourist with interest in bird photography had the perspective that specialist visitors are sensitive to inappropriate behaviour, and *“if somebody starts climbing a cliff, a whole bunch try to discourage that person”* (#61). Further, a Norwegian generalist visitor explained that self-policing is the only thing that would work on the island, since there is a lack of supervision by any kind of authority.

Emotions created by observing others’ behaviour can result in social sanctions with responses that range from outright anger to active approval (Heywood, 2011). When participants imagined what others might think of them if they acted inappropriately, a feeling of shame was mentioned. Internal sanctioning within the individual is a product of the enforcement of social norms (Heywood, 2011). In this way, norms can lead to self-correcting thoughts and emotions, like guilt and embarrassment (Stensland & Aas, 2014). Two Norwegians mentioned self-policing explicitly. One of them told about an inner system of justice in the birding community that regulates and discourages unwanted behaviour. When other people are around, he thinks that no one would dare to do something in fear of reprisals. The findings echo with a study about social norms for skiing with dogs in Norway

(Heywood & Aas, 1999), which found a weak correlation between the behavioural norms and the social-condition norm. Social sanctioning was not viewed as a prominent obligation with the survey participants.

Nevertheless, empirical results from my study indicate that social mechanisms were influencing the behaviour of the visitors. It appears to be a value-conflict between birders and photographers; an us-versus-them mentality (Brewer, 1999; Manfredi, 2008). As presented in objective 2a), bird photographers were accused of being more ignorant of the birds' well-being, while the photographers themselves suggest that they are professional and careful. Consequently, a self-identity is created, along with group-specific norms. Specialist visitors in general tend to speak highly about their value orientations towards wildlife. It supports Curtin's (2010b) empirical results that 'serious wildlife tourists' differentiate themselves from other tourists.

Self-presentation of photographers entails having good skills at finding the right light and angle for their pictures. On the background of this, several interviewees were disappointed that they were not able to stay on the top of the colony, looking down. Nevertheless, most of the photographers were pleased at the end of the day. The self-identity of birders on the other hand, is coloured by prior experience from birdwatching in other countries. Thus, several birdwatchers had the opinion that they did not need to learn about proper behaviour on the bird island. A French birdwatcher stated; *"Well, I'm a birder for so many tens of years that I don't need that"* (#52).

Furthermore, a social mechanism is influencing others to perform inappropriate behaviour by your own actions. Seeing others perform a non-conforming behaviour can be a central influence to depreciative behaviour (Manfredi, 2008). If one person oversteps the physical boundaries of the area, others would start to do the same (Zhou & Horrey, 2010; Gstaettner et al., 2017). Some participants suggested that visitors would break the rules more frequently when alone than if other people were in the vicinity; *"No one wants to be seen when they do something that is forbidden"* (Man, Germany, generalist visitor #20).

The tendency of mimicking others behaviour can arise when an individual is uncertain of the situation, and therefore believes their behaviour is normative (Manfredi, 2008). The study of visitors' risky behaviour in Western Australia (Gstaettner et al., 2017) discovered that

interviewees were motivated to perform the unwanted behaviour by seeing other people doing it. To conclude, there are social mechanisms in place, but it is hard to say how much they affect people choosing to perform, or not perform depreciative behaviour.

4.4 Control beliefs and perceived behavioural control

How can perceived behavioural control be understood in the context of Hornøya, and what are the visitors' preferences for tourism and nature management?

In the context of this study, perceived behavioural control refers to *the belief of being able to avoid inappropriate or illegal behaviour*, but still have the experience of the birds that fulfils the expectations of the visit. The concept only comprises visitors that are mindful of potential disturbance of birds if they disobey the rules. In the case that a person chose to perform depreciative behaviour, it refers to wilful violation based on the typology of undesirable visitor behaviour by Hendee et al. (1990; Manfredi, 1992). Influencing factors of perceived behavioural control are prior experience and information about the act in question, observations of family and friends, and other factors that strengthen or hinder the belief of completing the behaviour (Ajzen, 2005).

In the study of Hornøya, perceived behavioural control depended on external factors, both social and structural influences. It supports the findings of Gstaettner et al. (2017), which indicated that participants were encouraged by the behaviour and beliefs of people they are in close relationship with. Secondly, formal sanctions, like authority control, function as constraints against depreciative acts. Infrastructure is a facilitator and can initiate perceived behavioural control (Ajzen, 2005). For instance, an Austrian guide suggests that a better and more solid boardwalk would increase the chance that people will stay on the path. Consequently, a better trail with lookout points can satisfy the 'needs' of photographers and boost their perceived behavioural control. Furthermore, information about the negative consequences on bird life can give understanding about the risks, thus acting as a deterring factor (Gstaettner et al., 2017).

Communication through interpretation is important in order to raise awareness and raise sympathy for the birds. In the end, intentions and attitudes toward the object (the birds) and

the behaviour (disturbing acts) may be the strongest decision-making factors (Ajzen & Fishbein, 2000). However, Ajzen points out that “(...) *the fewer obstacles or impediments they anticipate, the greater should their perceived control over the behaviour*” (Ajzen, 2005, p. 125). In this way it is possible to suppress volitional behaviour by various restrictions. A Dutch specialist visitor suggest surveillance as a measure;

“You have to say something. Just put up a big sign that says if you disturb the birds you get a ticket of 500 kr, or 1000 kr! (...) “Or cameras. And then you can take them when they come off the boat there. Easy!” (Man, The Netherlands, birdwatcher- and photographer #38)

Informants had many ideas for management, both how to stop illegal behaviour as well as the opinions of scale of constraining infrastructure. First and foremost, the need for more warning signs was mentioned. Additionally, the closures of the area should be improved, which is supported by Manfredo (2008) as an important measure. The different visitor types had distinctive, spatial preferences. The generalists wanted to walk freely and explore the island. While the bird photographers sought a spot for their camera stand in places with high aesthetic qualities, in order to ‘capture’ all the species they wanted (Curtin, 2010b). Lastly, the birdwatchers are the easiest group to please, as they can observe most of the birds through binoculars and telescope from one spot. The shelter was ideal as a base, also for observing the birdlife with the naked eye. In conclusion, a significant number of visitors were pleased with the size of the area in which they could move. They did not think the closed trail diminished the quality of the experience, nor that it affected the island’s popularity as a tourist destination.

In line with presented theory, communication tools and improved infrastructure were suggested as management measures (Gstaettner et al., 2017). Especially, better paths and more signs in were underlined in several languages. Secondly, people believed that nature guides would both function as a watchman and improve the quality of the trip. The interviewees wanted information about guidelines of behaviour and to learn about the bird species. The importance of interpretation activities in wildlife tourism is pointed out in literature, among others by Moscardo et al. (2004).

Other visitor preferences for management are to decrease the designated area for tourists, so that the birds living on ground level would be more protected from traffic. A few informants added that a large area must be kept free of any human presence. This measure is supported by management programs where temporal distribution of tourists is one component (Higginbottom, 2004b). Furthermore, other proposals of restraints were to make the warning-signs clearer regarding the frequency, visual presentation and content of the message (Lorentsen & Follestad, 2014). New signs should be combined with more ropes to mark the boundaries and maintained in a good state. Despite proposals that involve physical interventions on the vegetation, interviewees pressed the need to keep the area as natural as possible (Ballantyne et al., 2011). Although they were sure that the island needed to improve its management, it must not overstep their perspective of the ideal conservational goals, thus avoiding additional infrastructure compared to the current facilities. Other objectives for tourism management and nature conservation were to avoid mass tourism and regulate the visitor numbers (Blumstein et al., 2017).

“Manage the numbers. Don’t bring too many people at once. I think it’s special to be on the island when there are only small groups of people. Cos’ imagine standing here with two hundred people, haha! Wouldn’t be the same experience. I think limiting the numbers, maybe three or four boats at a time. So, maybe thirty people on the island at once. That makes it very special.” (Man, Wales, birdwatcher and guide #16).

Hornøya was frequently described as ‘special’ and ‘unique’ and some said it might be the best place in the world to experience seabirds. Therefore, it must be protected in a stricter fashion than other bird island destinations in Europe, they argued. Many participants eagerly presented measures to reach the management goals.

“As I saw in other islands, they limit the time on the island and number of passengers. If now you think they are disturbed, maybe that’s the way to go. To bring only two boats a day and you limit the time on the island.” (Man, Switzerland, bird photographer #24)

An American woman said; *“I don’t mind the higher fee also to reduce the numbers – to price people out of coming here on purpose to keep the numbers down by raising the fee to eliminate people”* (#42). In this way, the birdwatching product can increase in exclusivity and

increase willingness to pay (Bertella, 2016). Many informants agreed in the sense that the scale of the tourism should be controlled. On the other hand, positive consequences of maintaining the current state of the island were viewed as higher. The island was considered as an ideal place to teach people about nature and wildlife (Ballantyne et al., 2011), especially because it is one of the few bird islands that still has high populations of seabirds. A guide selling private birdwatching trips made some concluding remarks with an overarching goal. He has a diverse background with experience from bird ringing, photography and education in nature conservation.

“I think it’s about going together with scientists, photographers and nature guides to manage [the area]. As a photographer it’s about finding good spots to get the right light and colours, the right distance, and so on. This can be done in collaboration with scientists to minimise the disturbance, but at the same time get good photos. A hide, or just some viewpoint here that has good distance to the birds.” Translated from Norwegian (Man, Norway, guide #53)

4.5 Observations

How does independent observations of tourist’ behaviour support or undermine the empirical interview data?

The observations cannot strictly confirm or reject the interview data, however, they are relevant supplements to interviews, especially to consider social desirability bias (Stewart, Shamdasani, & Rook, 2009). My observations are diverse regarding time of the day, weather, number of people present and social settings. A large part of the depreciative behaviours were performed with other visitors present on the island, but normally not in close proximity of the person. In most of the cases with people in the vicinity, I seldom saw bystanders mimic or copy the depreciative behaviour. However, the violator would often continue to stand outside the boundaries and did not move back quickly.

The majority of the observations of illegal behaviour when the person seemed to be the only visitor or one of few visitors on the island, happened early in the morning. However, normally most of the depreciative behaviour was observed midday. Less observations was recorded in the afternoon, and least during the evening.



Figure 8. One of the signs delimiting the area and the tendencies of a path made by visitors despite the warning. Photo: Frida M. O. Jørgensen

Illegal behaviour

The most frequently observed illegal, depreciative behaviour was for visitors to pass stop-signs delimiting the areas designated for visitors. The second most performed illegal behaviour was to cross the ropes marking the border for the designated area. The two other illegal behaviours were; a) passing both stop sign and crossing the rope at the same occasion, b) passing the stop-sign and fence of the closed path (Fig. 9). The fence and sign on the following photo close a path that was previously open for visitors. In comparison, the information is more extensive than the regular “stop sign”.



Figure 9. The sign informs in Norwegian and English; “No trespassing, due to falling boulders”. Photo: Frida M. O. Jørgensen

Illegal trespassing of signs and ropes occurred at various places. Some people crossed the rope right in the eyesight of the birdwatching shelter, which was the most popular place to be. One example was a female photographer on the wrong side of the rope with a camera stand. Two other photographers were nearby, with another crowd of visitors further away. However, while I was transported to the island in a smaller boat than the usual ones, she quickly moved away.

Inappropriate behaviour

The registration of inappropriate, deprecative behaviour was evaluated on site according to previous expert advice, my interpretation of bird reactions, and findings about social norms. Inappropriate behaviour appeared less often than illegal behaviour but can also be harder to identify. The most frequently observed inappropriate behaviour occurred on six occasions when visitors went down towards the sea and sat/stood by the rocks next to birds, which were either resting or drying their wings. The other inappropriate behaviours were observed between one and four times.

The most frequent inappropriate behaviour observed was general disturbance of nesting birds in the vicinity of the birdwatching shelter. The shelter is built for visitors., However, this season tens of birds had established nests under the construction or underneath the outside sitting bench. Thus, the birds had a high level of activity around the shelter. People often made abrupt movements or loud noises which would make the birds go the opposite way or hesitate to walk past them to their nest. For instance, a guide jumped up to the platform of the shelter and almost shouted while he was talking to a colleague in French. Many visitors were surprised when they discovered the nesting birds under the bench, and a couple of tourists were pecked on. Some people decided to move away, while others continued to stay in the same spot. Another inappropriate behaviour was for visitors to lean further in on the birds' nests under the bench, sometimes with a camera. In these situations, several people were usually present, most of whom reacted with laughing or talking about it.

5. Conclusion and implications

5.1 Depreciative tourist behaviour in a protected birdwatching site

The case-study of birder behaviour at Hornøya concludes in diverse findings, some of which can appear contradictory or at least illustrative of paradoxes. The tourists' bases for visiting

the bird cliff were generally rooted in a strong motivation to have a unique, rich experience of seabirds in their natural surroundings. A large majority of tourists were emotionally affected by enriching bird encounters, which lead to thoughts and reflections about environmental challenges and nature protection.

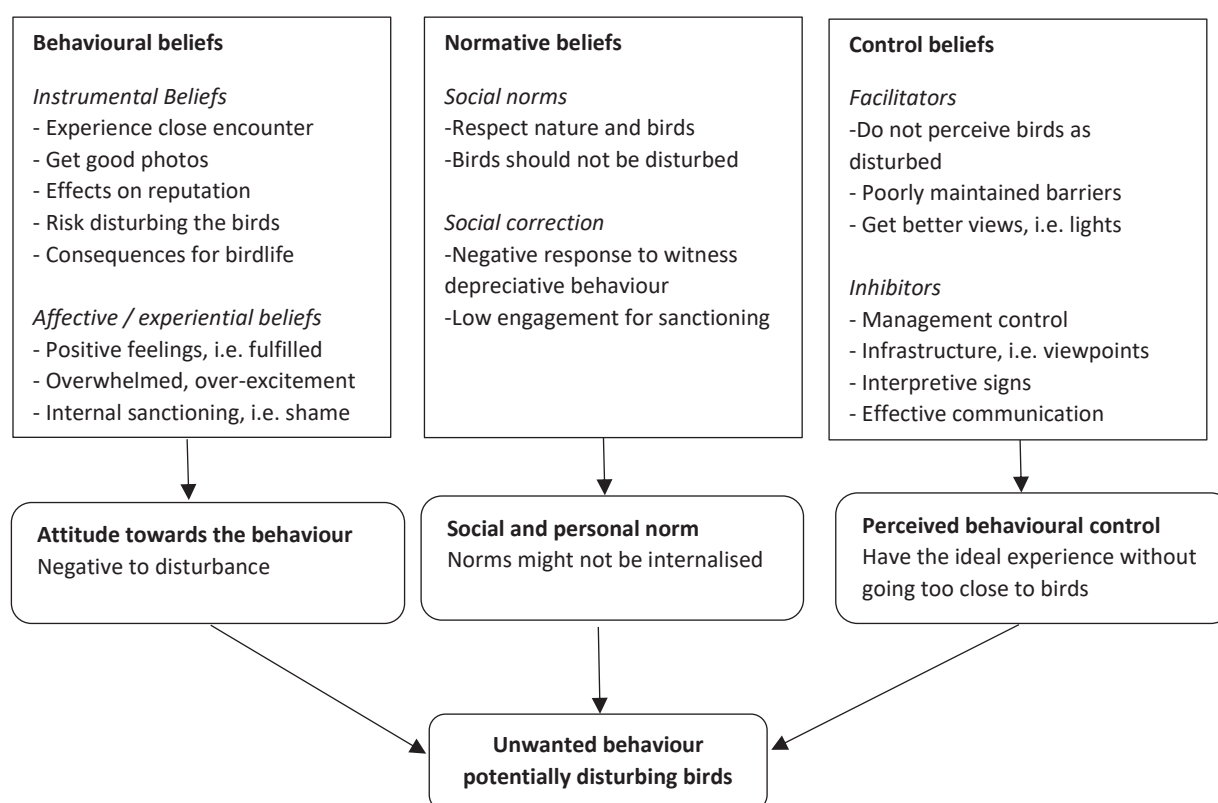


Figure 10. Motivation to perform behaviour that may disturb the birds using TPB (Ajzen, 1991).

Secondly, a common attitude among the informants was that the birds should not be disturbed, and that depreciative behaviour is not acceptable. On the other hand, the information gathered about behavioural beliefs demonstrates that informants do not consider the seabirds to be easily disturbed by humans. Hence, a suggestion is that attitudes towards disturbance are beneficial, but a deeper knowledge about negative effects on birds is lacking. Additionally, how can one evaluate what behaviour is inappropriate when it is hard to know if a bird that does not flee is stressed? Tourists self-report that they are careful around the birds. However, observations of all the visitor groups are to some extent contradictory, and document that some members conduct illegal and inappropriate

behaviour. Whether the unwanted behaviours are wilful or unintentional (based on lack of knowledge and information), is not always possible to say based on the scope of this study. The personal and social norms display awareness of the challenges of tourism in the nature reserve. At the same time, observations and interview data show that social norms are not fully activated as social mechanisms among the visitors. Some informants feared that they would experience a negative response and were uncomfortable with correcting others.

Low willingness to sanction non-conforming behaviours is a disadvantage, since some tourists have not internalised the “correct” norms about appropriate behaviour towards the birds. It means that it has not become a personal norm, and these people are more likely to perform depreciative behaviour. Thus, in the context of the Theory of Planned Behaviour, the power of control beliefs to avoid inappropriate or illegal behaviour is relatively weak (Fig. 10). It leads to the discovery that the perceived behavioural control of bird photographers is influenced by the urge to defy rules in order to get good pictures. Ultimately, some people will go to further lengths to fulfil their expectations of the visit.

5.2 Implications for biodiversity conservation and visitor management

The study provides valuable advice for nature and tourism management on a local level to minimise negative impacts on the birdlife (Part I, chapter iv). Nevertheless, the findings can give some general suggestions for management implications regarding birdwatching tourism. Visitor strategies should entail clear guidelines developed by experts that give advice on proper behaviour. There are clearly different types of tourists on Hornøya, with varying backgrounds and different motivations and requirements for their experience. Consequently, implications should be adapted for different user-groups. Often, the generalists lack knowledge, while the specialists have this knowledge to a greater extent, but might be strongly motivated by specific objectives, such as getting close encounters with birds, and therefore violate the rules.

Thus, effective communication of appropriate behaviour towards birdlife should target the receiver’s knowledge level and emotions and raise sympathy for the birds’ welfare. Design of interpretive information material can also create awareness about the environment and influence conservational efforts. Good signs are crucial, both to mark the boundaries for traffic, and to teach about birdlife such as specific species and habitats present. Moreover, alternative tourism products, such as live video streaming of the nesting places in a visitor

centre, can alleviate pressure on the birds. Nature guides have a central role in inhibiting tourist depreciative behaviour, in addition to improving the quality of the visitor experience. In conclusion, an updated and thorough visitor strategy for the nature reserve is needed. Adapting and/or developing laws are effective tools for sustainable management. Tourist numbers can be regulated, and the area should be monitored by management officials. Management of protected nature sites with tourism activity should entail cooperation between conservation officials and tourism providers, in addition to other stakeholders. Frequent evaluations of social and biological aspects are important for monitoring negative anthropomorphic effects on the ecological qualities in the protected area.

5.3 Suggestions for further research

The case-study applied a widely used psychological framework to better understand undesirable tourist behaviour in a wildlife conservation area and, as such, contributes to existing, similar research on wildlife watching tourism. Thus, the implications might be transferable to other wildlife watching destinations to improve nature protection and tourism management.

Quantitative surveys on attitude-behaviour studies are recommended, so that knowledge about visitors can identify the most effective management alternatives. Thus, information from user-groups will estimate the success of a management program. Further research should evaluate site conditions and the recreational experience. Exploring the linkages of value orientations and emotions can help to establish a groundwork for explaining human-nature relationships. Lastly, studies of norms can give new insight to the acceptability of key management issues.

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Appendix

Appendix 1: Interview-guide

Introduction

I am a graduate student in nature-based tourism at the Norwegian University of Life Sciences. We want to know more about the birding tourism at Hornøya, including the visitor's experiences. I would like to audio record the interview and ask for your consent to do so. If you participate in you will remain anonymous and your opinions stay confidential. In my thesis, I might take out a few citations from the several interviews I will be doing this summer. All citations will be anonymous. If you like to approve formally any anonymous citation from this interview, I can send you the citation on email. If so, I will need your email address.

Background information

1. Where are you from?
2. Have you been at Hornøya before?
3. What are your reasons for visiting Hornøya? Why do you find that interesting?
4. Where did you hear about this bird island?
5. What does it mean to you to be able to get good photos of the birds?

Human-bird relation

1. How did you experience your visit to Hornøya today?
2. What impressions did you get from the nature and wildlife here? How did it appeal to your senses?
3. Were the sightings of the birds like you expected? What did you enjoy, and what did you not like so much?
4. How do you think the birds reacts to the visitors at Hornøya?
5. Did you expect to have a close encounter with the birds? What do you define as a close encounter?
6. If so, how did it make you feel?
7. Did you use a camera or binoculars today? What are the benefits of watching the birds at Hornøya through a lens?

8. Do you prefer to watch with camera/binoculars or without? Why is that?
9. How would you describe the nature and landscape on Hornøya? Does it affect you in any way?
10. What things came to your mind when walking around in the terrain? Any thoughts or feelings?

Behavioural beliefs

1. Do you know where visitors are allowed to move around at Hornøya, and where they are not supposed to be?
2. The designated area for visitors is marked by ropes and signs. What do you think are the positive and negative things **outside** of the designated area?
3. What are the positive and negative sides by **being inside** the designated area?
4. What kind of human behaviour do you think can disturb the birds at Hornøya?
5. Have you experiencing that the birds are disturbed by the visitors? What makes you think so?
6. Do you think it has negative consequences for the birds? Which ones/what kind?
7. Do you think human presence can have positive outcomes for the birds? How?

Normative beliefs

1. Who do you think would not approve if you were to go out of the designated area?
2. Would you worry about what others might think if you had gone outside the designated area?
3. Did other people encourage or discourage you to go outside the area?
4. Do you think visitors respect the ropes and signs that show where it is allowed to be?
5. Did you see someone go past it? What do you think about that?

Control beliefs

1. On what basis do you think visitors should be allowed to walk outside the designated area? Why or why not?
2. Did you learn about how to behave toward the birds before you arrived at Hornøya? In general, or from local information (Tourist information, Vardø Havn, Wild Varanger, Biotope)?
3. What do you think about the quality of the information in town and on Hornøya?

4. Do you think the area can be managed or regulated in a better way? Which measures and for the benefit of the visitors or the birds?
5. Is there something that can be done to improve the visitor experience?

Appendix 2: Opplegg for feltobservasjon

Utførelse

Kombinasjonen av de tre forskjellige stedene for skjult observasjon, gir nesten fullt innsyn. Det meste av tiden brukes på hovedbasen, mens lokasjon 2 og 3 fungerer som supplement. Et typisk mønster hos de mest dedikerte fuglekikkerne, er å bruke lang tid med fotostativet plassert på et sted. Dermed kunne jeg enkelt bevege meg til neste observasjonspunkt samtidig som de valgte å gå videre. «Generalister» derimot, samt noen tilfeller av fuglekikkere, hadde et uforutsigbart bevegelsesmønster. De kunne raskt forsvinne ut av syne, slik at jeg måtte prøve raskt gå videre i ulendt terreng for å holde kontroll på aktiviteten deres. Av og til var det hensiktsmessig å bevege seg jevnt og trutt mellom alle tre stedene for observasjon.

Stedene for observasjon

Hovedbase (1)

Rødt punkt på kartet. Er ved enden av stien hvor vi får lov å ferdes på, men som er stengt for turistene. Jeg står noen meter fra steinen som falt ned og har god oversikt over de besøkende.





Blått: vindskjulet

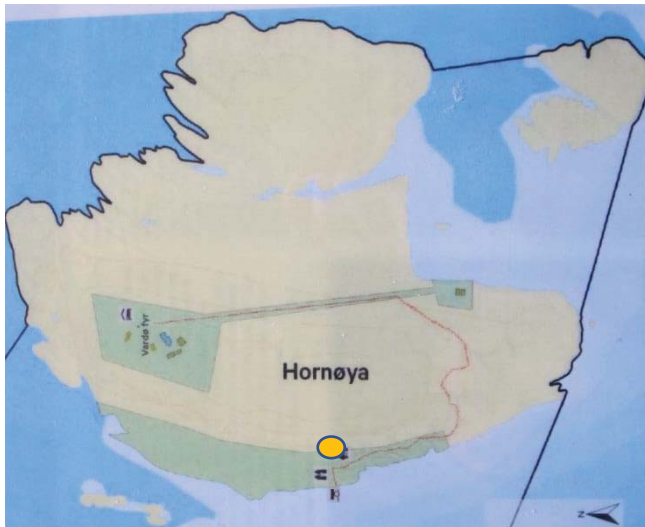
Rødt: skilt som viser grensen hvor de besøkende har lov å gå

Gult: den store steinen som falt ned sommeren 2016, og gjorde at stien ble stengt

Jeg har fått beskjed om at jeg må ha på meg en type refleks-vest for at Statens Naturoppsyn, og andre, skal se at jeg har lov til å være der. Fordelen med denne lokasjonen er at jeg ikke trenger å vise meg selv hele tiden, men samtidig har et visst utsyn til turistene. Da går jeg litt lenger bak og til høyre. Når jeg skal gjøre intervjuer på andre siden, og observasjoner, trenger jeg ikke ha vesten.

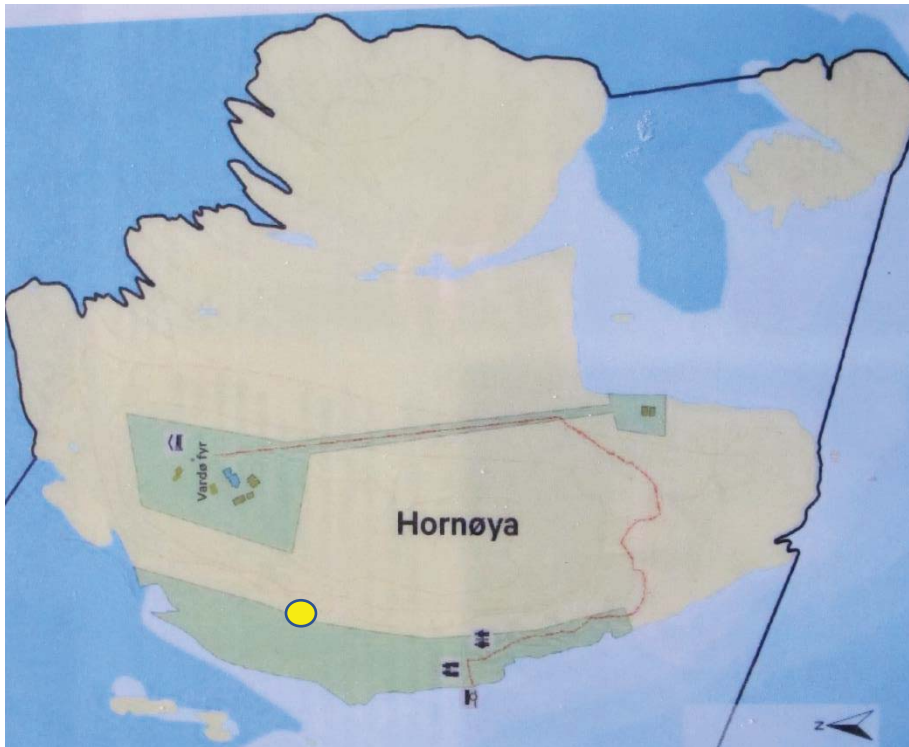
Lokasjon 2

På en hylle langs fjellkanten, parallelt med vindskjulet. Gir klart innsyn til midtre del av turistenes område. I tillegg kan man se hele tau-rekken som danner et gjerde foran fjellveggen. Sammen med lokasjon 1 gir det nesten et nøyaktig bilde av turistenes handlinger. Et unntak er i «blindsonen» der sted 1 og 2 møtes. Ved videre undersøkelse og besøk på andre siden av øya, viser det seg at personer kan gå inntil fjellet med to «vegger» på hver side av seg selv.



Lokasjon 3

Det siste punktet for observasjon er nordre del av fuglefjellet, på en hylle langs fjellknausen. Der er det god oversikt av et stort område hvor de besøkende kan gå fritt. Her er det ikke ikke særlig med potensiale til å utføre avvikende atferd. Fuglene hekker et stykke lenger opp i høyden enn det menneskene går. Typiske aktiviteter er å gå til fjæra og se utover havet. Fordelen med dette stedet er at det er kort å gå til fra huset slik at jeg kan se om det har kommet en båt med nye folk.



Omtrent slik utsikt fra observasjonspunkt nr. 3. I tillegg har jeg oversikt til venstre, helt til vindskjulelet.



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