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Tourism Development and Nature Conservation in Coastal Protected Areas - a Comparative Case-Study in Ytre Hvaler and Raet National Park along the South-East Coast of Norway and the Wadden Sea National Park in Germany

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List of Abbreviations

CWSS Common Wadden Sea Secretariat

EU European Union

GDP Gross Domestic Product

GDR German Democratic Republic

GNTB German National Tourist Board

ICZM Integrated Coastal Zone Management

IUCN International Union for Conservation of Nature

LKN-SH State Agency for Coastal Protection, National Park and Marine Protection of Schleswig-Holstein

NGO Non-governmental organization

NINA Norwegian Institute for Nature Research

NORTRA National Tourism Board of Norway

NPC National Parks Commission

PBA Planning and Building Act

PSSA Particularly Sensitive Sea Area

SNO Norwegian Nature Inspectorate

SPAs Special Protection Areas

TWSC Trilateral Wadden Sea Cooperation

UN United Nations

UNWTO World Tourism Organization

USA United States of America

WCPA World Commission on Protected Areas

WEF World Economic Forum

WPCA World Commission on Protected Areas

WSP Wadden Sea Plan

Abstract

Tourism is one of the fastest growing economies of the word. Especially large, protected areas such as national parks and biosphere reserves are an attractive destination for nature and landscape-related holidays. At the same time, Norway has started to establish national parks in densely populated regions along the coastline. Therefore, the national parks on the coast are an interface of two tourist attractions. As the national park system is adapted to mountain national parks, a management system suitable for coastal national parks needs to be developed. One solution is to improve the knowledge base through international comparisons and to adapt techniques used by countries with a long tradition in combining tourism and coastal national parks, such as Germany.

This thesis is therefore a comparative study of the tension between tourism and nature conservation in coastal national parks across Norway and Germany. Specifically, the research objectives of this thesis are to identify key differences and similarities in existing management plans and visitor management between Ytre Hvaler, Raet and the Wadden Sea National Park. It will investigate the capacity and scope of management tools (e.g., management plans, zoning, visitor strategy) applied in the above-mentioned national parks. It also examines how tourism development and nature conservation are managed to reconcile these two sometimes conflicting issues. It will also comparatively discuss tourism development and the related problems and measures as well as possible weaknesses or strengths of the different concepts.

To address the research questions, this study uses a combination of different qualitative methods. These include document analysis and the guideline-based expert interview, as well as the expert survey using a questionnaire. The results show that although the important management elements such as the management plan, zoning and visitor strategy are applied in all the national parks studied, qualitative differences can be identified. This does not only depend on the extent of management authority, but is also influenced by e.g., cultural traditions, the right of public access and the time frame for development. Finally, this paper shows where the greatest potential for transferring management approaches lies and what benefits the still young coastal national parks from Norway can draw from this.

1 Introduction

While the protection of the environment, nature and landscapes is becoming more and more important in politics and society worldwide, the number of tourists is increasing as well. In 2018 alone, about 1.4 billion people travelled abroad globally, what corresponds to a growth of 6% compared to the previous year (BMWI (ED.), 2020). Experts agree that tourism worldwide, but also regionally, will continue to grow steadily in the future. Furthermore, the World Tourism Organization (UNWTO) estimates that the number of global tourists will increase to around 1.8 billion by 2025[1] (REUSCHENBACH, 2016). At the same time, hardly any other economic sector is dependent on nature and the environment being as intact as possible, as well as on aesthetic landscapes, whose accessibility and experience ability are one of the most important holiday motives. For more and more people, nature and the experience of nature play a decisive role in choosing their holiday destination (GÄTJE ET AL., 2007). In addition, health and well-being are important holiday motives alongside the experience of nature (BFN (ED.), 2020B).

The more varied natural and cultural landscapes are, the greater is their attraction for tourists. Especially large, protected areas such as national parks, biosphere reserves and nature parks with their diverse landscapes and natural areas are an attractive destination for nature and landscape-related holidays. These trends offer nature conservationists the opportunity to look for links between their own destinations and those of the tourism industry. Synergy effects can be used to get people excited about nature, improve the acceptance of nature conservation and large-scale protected areas and strengthen the regional economy (BFN (ED.), 2020A). Last but not least, the development of natural landscapes for tourism means an economic upgrading, especially of structurally weak regions, and thus provides the impetus for sustainable regional development (WILKEN, 2003). Here it quickly becomes clear that tourism and nature conservation, two topics which at first glance appear to be very contradictory, are strongly interlinked. The preservation of the diversity of habitats is of fundamental importance for tourism. Nevertheless, tourism is also one of the contributory causes of pressures on nature and the environment.

[1] This development forecast refers to the state of knowledge before the COVID-19 pandemic.

Protected areas, especially national parks, are therefore a recognized and comprehensive instrument that is of great importance for the conservation of biological diversity (BFN (ED.), 2010; REVERMANN & PETERMANN, 2002) and in addition to their important ecological and social functions, they are now more than ever in the focus of tourism. That is why the Norwegian Ministry of Climate and Environment, in cooperation with the renowned Oslo-based architectural firm "Snøhetta", has developed a brand strategy for national parks throughout Norway. According to this strategy, nature should be used but not consumed (INNOVATION NORWAY (ED.), 2015). At the same time, a trend in Norwegian conservation policy is that new national parks are being established not only in mountain areas but also along the coast (STOKKE ET AL., 2017). The creation of a new national park is always a great challenge. Contradictions between nature conservation, human use and economic activity constantly arise. European national parks in particular are characterized by the fact that they are established in close proximity and in strong economic connection with their inhabitants (GSCHODERER, 2008). These new coastal protected areas are also marked cultural landscapes with larger population concentrations nearby. They have to cope with a large and diverse range of uses, which are also subject to pressure from visitors from land and sea, new types of tourism as well as new types of outdoor activities (STOKKE & HAUKELAND, 2018). This results in specific conditions for the extent, shape and character of tourism in these national parks and poses new challenges to the park management with regard to planning and maintenance of the national parks (NATIONALE NATURLANDSCHAFTEN E. V. (ED.), 2020D).

In order to meet these challenges, it may be worthwhile to take a look at the national park strategies of neighboring countries, which have already been able to gain experience with coastal protection areas for some time. For example, the German Wadden Sea National Park, which was already designated between 1985 and 1990 and has undergone many changes since then. Today, the Wadden Sea region is one of the most popular tourist destinations in Northern Europe (BJARNASON ET AL., 2017). At the same time, it is home to around 10,000 species of plants, animals, fungi and protozoa and is also an important migration point for many migratory birds. This combination confronts all parties involved, from tourism as well as nature conservation, with the difficult task of finding a balance that satisfies all parties.

1.1 Purpose and Aim

This master's thesis is a comparative study of the tension between tourism and nature conservation in coastal national parks in Norway and Germany. While the first coastal national park in Germany was founded in 1985, the first national park with marine influence in Norway was designated in 2009. Hence an important task of this thesis is to compare the structures of the still quite young Norwegian coastal national parks with those of the German coastal national park, which has existed for quite some time. Furthermore, an attempt is made to find out whether coastal national parks face different challenges than national parks without marine influence. In detail the research objectives of this thesis are to (1) identify key differences and similarities of the existing management plans and visitor management between Ytre Hvaler, Raet and Wadden Sea National Park. Furthermore, I want to (2) examine the capability and scope of management instruments (e.g., management plans, zoning, visitor strategy) that applies in the aforementioned national parks. I also want to (3) work out how tourism development and nature conservation are handled in order to reconcile these two, sometimes contradictory, issues. And to (4) discuss tourism development and the associated problems and measures, as well as possible weaknesses or strengths of the various concepts in a comparative way.

Therefore, two of the four Norwegian coastal national parks and the Wadden Sea National Park from Germany were selected. In detail, the focus of this thesis is the Ytre Hvaler National Park, which is located in the southeastern part of the Oslofjord. The Raet national park, located on the outer coastline of southern Norway and the Wadden Sea National Park (SH) from Germany, which is located on the west coast of the federal state of Schleswig-Holstein.

The methodological procedure is divided into the analysis of literature, with the use of a document analysis (cf. Chap. 5.1) and the qualitative evaluation of expert interviews (cf. Chap. 5.2). The combination of document analysis and qualitative data evaluation has advantages over a pure literature search. This is because the complex interrelationships of the topic can be captured and presented in a structured way through the collected data. Subsequently, these can be expanded and intensified by means of further questions.

2 Tourism Development

In general, the UNWTO (N.D.) defines tourism as "*[…] a social, cultural and economic phenomenon which entails the movement of people to countries or places outside their usual environment for personal, business or professional reasons*". Today, tourism is seen as a fundamental need of human existence and for many people it constitutes a significant part of their leisure activities (FREYER, 2015). Thus, it is not surprising that tourism is a highly significant economic sector globally plus locally and provides real prospects for enduring and inclusive economic growth (BUNGE, 2018). The sector generates foreign exchange, drives regional development, directly supports numerous types of jobs and businesses and underpins many local communities (OECD (Ed.), 2020). Looking at the numbers on tourism development, it is clear that more and more people are traveling. In 2019 alone, more than 1.5 billion international tourist arrivals were recorded worldwide and a further increase in tourism is also expected in the future. (BMZ (ED.), 2020). In this context, nature in particular is an increasingly popular destination among tourists.

In the following chapters, the tourism development for Norway (cf. chap. 2.1) and Germany (cf. chap. 2.2) will be described. Furthermore, the focus is given to the development of tourism in costal zones (cf. Chap. 2.3), as well as national parks as tourism attractions (cf. chap. 2.4).

2.1 Tourism Development in Norway

The Norwegian history of tourism begins in the middle of the 19th century. At that time, it was mainly English people who came to Norway for hiking and climbing in the mountains or for hunting and fishing in coastal areas rich in fish. The impressive landscape attracted mainly wealthy visitors, including the German Kaiser Wilhelm II. While the occupation of Norway by German military during World War II, played a very minor role. The economic revival of the western industrial nations caused a peak in tourism in the post-war period, mainly as mass tourism (FREYER, 2015). Norway remained unaffected by this, however, as it had a cooler climate and has a lack of beach areas compared to southern European countries. The upswing of the Norwegian tourism industry began in 1984 with the initialization of the National Tourism Board of Norway (NORTRA) (KLIEM, 2003). Specific marketing in 12 different countries, including Germany, USA and Japan, ensured a continuous increase in the number of visitors. Norway also benefited from the growing motorhome tourism in the 80's and 90's of the last century, which continues to this day. In recent decades, the expansion

of the infrastructure in particular has made travelling to Norway easier. In addition to the various ferry routes, travelling to Norway by plane has never been easier, and since June 2000, travelling across the "Öresund Bridge" has also been an alternative.

Nowadays the unique nature, culture and history make Norway a very popular destination for tourists. In 2018, a total of over 33.8 million tourist overnight stays were recorded in Norway (INNOVATION NORWAY (ED.), 2017), of which about 1.8 million were by tourists from Germany. This makes Germany the largest tourist group by country of origin after the Norwegians themselves (GRAEFE, 2020). The tourism industry today is an extremely heterogeneous but economically immensely strong sector. Meanwhile, 6.7 % (i.e. about 170,000 people) of the total Norwegian employment work in the tourism industry (INNOVATION NORWAY (ED.), 2017). In addition, the industry contributes 4.2 % to gross value added. This growth is reinforced by the currency effect, since 2013 the Norwegian Krone has been relatively weak against the Euro, British Pound, US Dollar, Danish and Swedish Krone. As tourism is an export industry, it benefits from a weak Norwegian grain exchange rate and makes a visit to Norway cheaper. (OECD (ED.), 2020). Popular tourist destinations in Norway are the cities of Oslo, Ålesund, Bergen, Stavanger, Trondheim and Trømso. However, the main reason for many tourists is the varied landscape with fjord coasts and mountains, ski resorts, lakes and forests. Therefore national parks and other protected areas are popular tourism destinations with an increasing visitor interest (STOKKE & HAUKELAND, 2018).

2.1.1 Tourism Organization and Governance

How tourism is structured and organized is shown in Figure 1. The responsibility for the development and regulation of tourism in Norway lies with the Ministry of Trade, Industry and Fisheries (Nærings- og handelsdepartementet). The ministry cooperates with other ministries, such as the Ministry of Culture (Kulturdepartementet) and the Ministry of Climate and Environment (Klima- og miljødepartementet), in order to demonstrate increased added value between the cultural and tourism sectors or to promote a more sustainable tourism sector (OECD (ED.), 2014B). Furthermore, regional and local authorities also influence tourism development. They are responsible for planning and regulation in areas such as infrastructure, utilities, national parks and other local attractions related to the natural and cultural heritage. The counties and

municipalities sometimes develop tourism strategies and provide financial support to local management organizations (OECD (ED.), 2020).

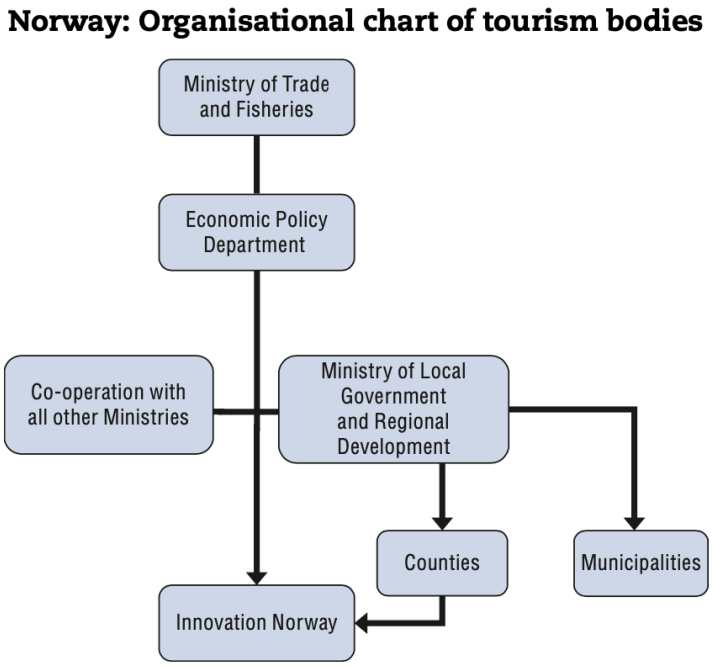

Figure 1: Organizational Chart of Tourism Bodies in Norway (OECD) (ED.). (2014B)

Norway's national tourism organization is the state-owned company "Innovation Norway". Since 2004, Innovation Norway has been responsible for the international promotion of Norway as a tourist destination and for the development of the tourism sector within the country's borders. The main funding is provided by the Ministry of Trade, Industry and Fisheries, but also receives some funding from other ministries and counties (OECD (ED.), 2020). Innovation Norway is headquartered in Oslo and has regional offices in each of the 11 administrative regions. There are also offices in 33 countries worldwide, some of which are located in Norwegian embassies (OECD (ED.), 2014).

2.2 Tourism Development in Germany

Germans have always traveled inside their own country, before 1850, however, the motivation was not comparable with today's understanding of tourism. In this first phase of tourism, travel was usually not a pleasure, the journeys were not made for their own sake, they were mostly arduous (FREYER, 2015). The essential conditions for tourists are free time, disposable income and a vacation regime for working people. All of these were available to only a small part of the population in the 19th century (RAHLF, 2015). In Germany, the summer retreat "*Sommerfrische*" emerged as a typical form of travel, especially for the aristocracy and wealthy middle-class circles. This involved traveling, usually by train, always to the same place and accommodation

(FREYER, 2015; RAHLF, 2015). This is how the first traditional tourist regions came into existence, especially in the Alps and on the North and Baltic Seas. It was not until the turn of the century that vacation regulations gradually became established, but many people still traveled only briefly on weekends and holidays. Overall, the intensity of travel increased enormously until the First World War. After tourism was no longer important at the time of the First World War, tourism developed into a mass phenomenon when the war was over (FREYER, 2015). The majority of tourists were still domestic tourists. Out of 114 million overnight stays counted in 1938, 109 million were domestic and only 5 million were foreign tourists. (RAHLF, 2015). This was mainly due to the fact that travel was politically instrumentalized and regulated under National Socialism. Like at the First World War, tourism hardly played any role during the Second World War. Immediately after the war, the upswing in tourism continued. It even gained momentum; in the economic miracle of the 1950s and 1960s, people spoke of a "tourist take-off" (RAHLF, 2015). This was particularly due to the rise in motorization and the associated increase in individual travel. For many people from other European countries, Germany was primarily a stopover on their way south, so camping in particular gained in importance in the 1950s (BECKER, 2000). Between 1949 and 1989, tourism developed differently in East and West Germany. In the GDR (German Democratic Republic), travel also had an important personal, but above all social and political significance. Tourism was mainly organized by the state. More than 80 % of GDR citizens' travel destinations were within the country, while trips abroad were especially to "socialist foreign countries" (such as Hungary, Czechoslovakia, the Soviet Union). There were particular problems in German-German ("inner-German") travel, especially after the construction of the Berlin Wall (1963) and the strengthening of the inner-German border fortifications (FREYER, 2015).

In the 1990s, the share of foreign guests in the total number of overnight stays in Germany was relatively low at 11.7%. However, towards the end of the 1990s until today, this has been steadily increasing. This positive trend is mainly due to the increased influx from the USA, Great Britain and Northern Ireland, Switzerland, Austria, Belgium and Denmark (HORN & LUKHAUP, 1998). With its mountainous landscapes (Alps and low mountain ranges), lake and river landscapes, the coast and islands of the North Sea and Baltic Sea, numerous cultural monuments and national parks, as well as cities with historical significance, Germany has nowadays favorable conditions as a holiday destination. Added to this is the central location in Europe and a very well-developed infrastructure. Due to these factors, Germany ranked third out of 136 countries in the

Travel and Tourism Competitiveness Report 2017 of the World Economic Forum (WEF (ED.), 2017). Tourism in Germany is still a growing sector. With around 447.6 million overnight stays in 2018, the ninth record year in succession was recorded (BMWI (ED.), 2020B). The largest share of overnight stays was accounted for by domestic tourism with almost 82% and growth of 3.9% compared to 2017. The number of international visitors in 2018 was 87 million, an increase of 4.5% over the previous year. The three main countries of origin for international tourists in 2018 were the Netherlands (12 %), Switzerland (8.5 %) and the USA (7.7 %) (OECD (ED.), 2020). In Germany, around 2.9 million people are directly employed in the tourism industry, which represents 6.8 % of total employment. Most tourists are attracted primarily to the large cities (e.g. Berlin, Hamburg, Munich), with tourism being of particular importance for jobs in structurally weak rural areas (BMWI (ED.), 2020B).

2.2.1 Tourism Organization and Governance

In Germany, the federal government is mainly responsible for creating an appropriate policy framework for tourism, as the German federal system makes the individual federal states responsible for the precise development, organization and promotion of tourism. The federal system implies that the Federal Republic of Germany is a state with 16 federal states (*Länder*) as constituent parts. Both the federal states as constituent states and the federal government as a whole have their own state authority. The federal states are defined as states with their own state constitutions, parliaments, administrative structures and responsibilities (BMI (ED.), 2020). Figure 2 shows how the exact responsibilities in tourism are distributed. It displays that the Federal Minister for Economic Affairs and Energy (Bundesministerium für Wirtschaft und Energie) is responsible for tourism policy and is supported by the Advisory Council for Tourism in order to bring together the interests of the government, the tourism industry, science and others. Tourism policy within the Federal Government and the German Parliament (Parliamentary Tourism Committee) is coordinated by the Federal Commissioner for Tourism. The individual federal ministries of the *Länder* are to draft, implement and finance strategies to promote tourism development and consult each other twice a year in the Federal-Länder Committee on Tourism (OECD (ED.), 2020).

The German National Tourist Board (GNTB) is responsible for marketing abroad. The GNTB works closely with the tourism marketing organizations of the *Länder* and the German Chamber of Commerce (OECD (ED.), 2014A). Founded in 1948 by the German Tourism Association, the GNTB has its headquarters in Frankfurt am Main and represents Germany as a travel destination with over 30 offices worldwide. 75 % of its funding is provided by the Federal Ministry for Economic Affairs and Energy, while the remaining quarter is generated by its own revenues (DZT (ED.), 2019).

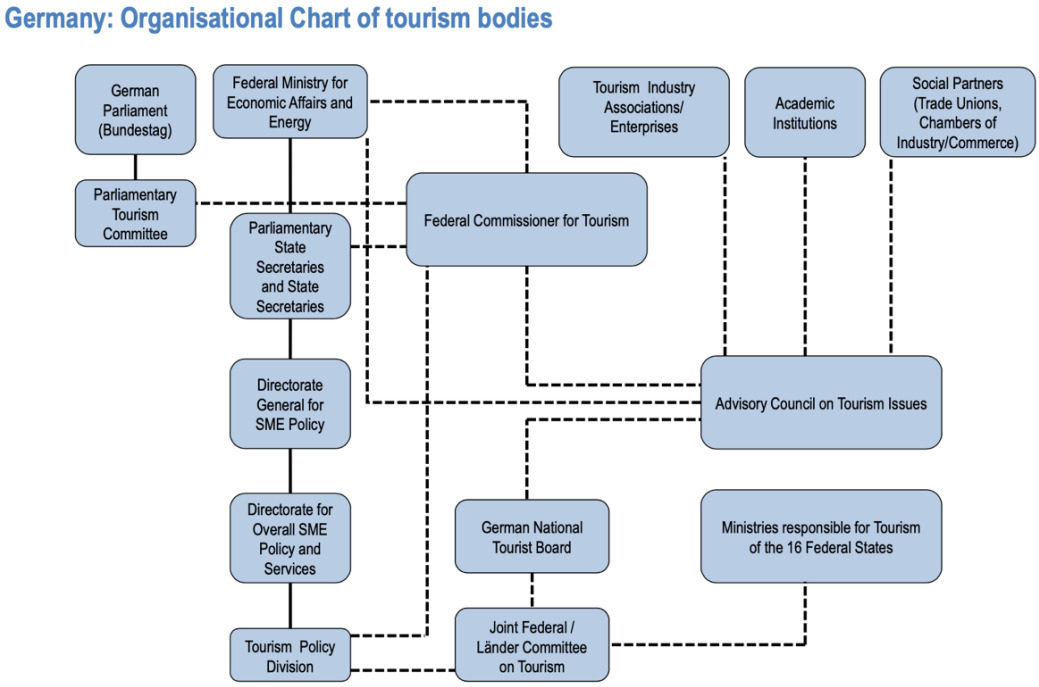

Figure 2: Organizational Chart of Tourism Bodies (OECD (ED.), 2014A).

2.3 Tourism Development in Coastal Zones

Coastal zones are highly dynamic environments where various land and marine processes interact (WINTER, 2018). In general, it can be stated that the coastal zone is the area where the land is still significantly influenced by the sea and the sea is still significantly influenced by land at the same time. Overall, coastal zones comprise about 20 percent of the Earth's surface and nearly 40 percent of the world's population lives along the coast (UNITED NATIONS PUBLICATIONS (ED.), 2017). At the same time, coastal zones have great importance as major economic and transportation zones, with the main human activities in coastal areas being urbanization and industrialization, shipping, tourism, fisheries, and increasingly aquaculture (CROSSLAND ET AL., 2005; MARIBUS GMBH (ED.), 2017). However, the two main activities that take place on the coast today are tourism and recreation. In this regard, the growth rate of marine tourism has surpassed most other forms of tourism (HALPENNY, 2002). As a result, coastal areas account for more than one-third of all tourism business in Europe, making coastal

and marine tourism the largest sea-based economic activity in Europe, employing nearly 3.2 million people and generating a total gross value added of EUR 183 billion (EC (ED.), 2014A). This development began during the early Roman Empire, when the Roman elite preferred to enjoy themselves in coastal areas (SIMCOCK, 2018). The European "discovery" of the coast for spa and medical purposes in England in the mid-18th century led to early forms of coastal tourism (MILLER & HADLEY, 2019). Further on, the invention of steamships and railroads led to a sharp increase in tourism in coastal areas. Thus, in the first half of the 19th century the coastal resorts experienced a faster population growth than the industrial cities, so that whole towns such as Blankenberge and Knokke-Heist in Belgium, Blackpool and Southend in England and Deauville and Trouville in France were built to serve this traffic (MILLER & HADLEY, 2019; SIMCOCK, 2018). The possibility of traveling to more distant areas by plane, as well as the increase in individual travel by car, finally led to today's tourism growth.

A 2012 study of 28 European countries, for example, showed that 599 million (42%) of the total 1,416 million tourist nights in those countries were spent in coastal regions. This is consistent with the preferences expressed by Europeans for a coastal vacation, where 46% desired a seaside vacation (EC (ED.), 2014B; SIMCOCK, 2018). This makes clear that coastal zones are highly stressed areas that need special protection due to their sensitive dynamics. Coastal national parks and integrated coastal zone management (cf. chap. 2.3.1) can make a great contribution to coastal protection and equally to nature conservation and the preservation of specific species. At the same time, national parks attract a large number of visitors nowadays (cf. chap. 2.4), so that coastal national parks face particularly great challenges.

2.3.1 Integrated Coastal Zone Management (ICZM)

Over the past decade the tourism has tried to develop approaches and strategies to better plan and manage tourism activities in coastal areas. This is not an easy task, and the effort is further complicated because these highly fragile environments are targets for many other human-induced development activities. One option that has recently been recognized by many tourism operators and decision-makers as a way to develop coastal tourism sustainably is integrated coastal zone management (ICZM). ICZM is a system approach that gained prominence at the 1992 United Nations Conference on Environment and Development in Rio and seeks to address the challenges facing coasts (GLAESER & SEKSCINSKA, 2007). It aims to consider all aspects of the coastal zone, including geographical and political boundaries, from a sustainable perspective

(CICIN-SAIN, 1993). The European Commission defines ICZM as *"[...] a dynamic, continuous and iterative process designed to promote sustainable management of coastal zones. ICZM seeks, over the long-term, to balance the benefits from economic development and human uses of the Coastal Zone, the benefits from protecting, preserving, and restoring Coastal Zones, the benefits from minimizing loss of human life and property, and the benefits from public access to and enjoyment of the Coastal Zone, all within the limits set by natural dynamics and carrying capacity.* (EC (ED.), 1999). The long-term goal is thus to achieve a balance between ecological, economic, social, cultural and recreational objectives. The relevant socio-political actors participating in an ICZM - the stakeholders - influence the process or are influenced by the process, for example representatives of the public and private sectors, local and regional self-governments, authorities, associations, NGOs as well as scientists from different disciplines. Thus, all actors in an ICZM are given an equal role (GLAESER & SEKSCINSKA, 2007).

In the US', ICZM has been applied in various versions since the 1970s, but only gained significant momentum through the promotion by the European Commission as a planning tool. In the meantime, the ideas and approaches are also being applied worldwide. Efforts are underway to establish ICZM on the coasts of Chile and in Southeast Asia (Philippines, Indonesia). In Germany, a national strategy for integrated coastal zone Management was adopted on 22 March 2006. In doing so, the Federal Republic implemented a corresponding recommendation of the European Commission from 2002 (2002/413/EG). In Norway, ICZM also has a long tradition in land use planning, as the Planning and Building Act (PBA) was extended to marine areas in 1989. Today, the main basis for Norwegian ICZM is the PBA of 27 June 2008. Furthermore, a high emphasis has been placed on the coast in Norway to ensure public access, recreational activities and coastal ecology (HANSEN ET AL., 2012).

2.4 National Parks as Tourism Attractions

National parks are responsible for preserving exceptional landscapes, wildlife, and habitats around the world and helping to stop the loss of biodiversity (SCHÄGNER ET AL., 2016). From the beginning, the design of national parks was largely justified by social functions of the parks (VEISTEN ET AL., 2015). National parks are thus intended to fulfill people's needs for unique nature and outstanding landscapes in addition to conservation functions. While tourism was once hailed as a clean or smoke-free industry, it has become apparent that without careful planning, not all contributions are

positive. Indeed, tourism, like other major industries, consumes depletable resources (STEWART, 1993). It has also been shown that meaningful encounters with the natural environment can be a catalyst for increased environmental awareness and to motivate tourists to become actively involved in better protection of endangered species and threatened ecosystems upon their return (FREYER, 2015). It almost sounds paradoxical: in order to protect nature and unique landscapes from human influence, national parks are designated, which in turn results in more people wanting to experience the area.

After a few decades of focusing on environmental protection as the main goal of national parks, ecological ethics gained importance in the establishment of parks starting in the 1960s (EAGLES & MCCOOL, 2002). Following that social and recreational goals were reintegrated into the park idea (VEISTEN ET AL., 2015). The decline of the rural economy in particular led to increased interest in using nature tourism as a regional development tool (HAUKELAND ET AL., 2010). The result is the expansion of facilities and activities in and around national parks, as more park visits, and nature-based tourism product development can potentially create local jobs and income. Therefore, sustainable tourism represents an opportunity to stem the aging and migration of the resident population (NIEDOMYSL & AMCOFF, 2011; VEISTEN ET AL., 2015). This is also clearly evident in the tourism strategies of various countries. For example, in the action plan of the Norwegian and German governments, national parks have been declared as a specific component of the new national branding strategy (HANNEMANN & JOB, 2003; HAUKELAND ET AL., 2010; INNOVATION NORWAY (ED.), 2015; VEISTEN ET AL., 2015). Regardless of the individual countries, this is also evident when looking at the national park definition from the IUCN. In addition to safeguarding large-scale ecological processes, it is already anchored here that national parks should provide educational, recreational and visitor opportunities (IUCN (ED.), 2014). It is therefore not surprising that more than 2 billion visits per year have been recorded in European national parks (AN ET AL., 2019). Especially in Central Europe, this means that comprehensive national park plans, with appropriate management and visitor strategies, are essential to ensure the development and protection of internationally recognized national park areas (NPBW (ED.), 2010). KAJALA ET AL., (2007) also illustrates that sustainable tourism strategies rely on a better knowledge and understanding of the nature-based tourism market in order to develop appropriate facilities and services in and around national parks. This results in specific conditions for the extent, shape and character of tourism in national parks.

3 National Parks

A globally recognized and valid categorization of protected areas (into six principal categories) has been developed by the International Union for Conservation of Nature (IUCN). It is based on the management objectives of a protected area and its special characteristics. National parks are listed by the IUCN as Category II and are associated with specific objectives and characteristics (IUCN (ED.), 2014). In the "Guidelines for the Application of the IUCN Management Categories for Protected Areas", Category II protected areas are defined as follows:

Category II *protected areas are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities."* (WWF (ED.), 2008)

3.1 The Development of the National Park System in a Global Context

With the founding of the first national park in the Yellowstone area (USA) in 1872, the idea was born to establish large-scale, segregated nature and landscape conservation as a national task. Since then, the term "national park" has been commonly associated with intact nature, untouched wilderness, a unique fauna and flora and magnificent landscapes (JOB ET AL., 2005). From the United States the idea of national parks quickly spread to other parts of the world settled by Europeans in modern times. Thus, in the further course of the 19th century, impressive natural landscapes were also protected as national parks for the first time in Australia (1879), Canada (1885) and New Zealand (1887). In Europe, the first national parks were established in Sweden in 1909 and in Switzerland in 1914. (EUROPARC DEUTSCHLAND E. V. (ED.), 2010). Nevertheless, the idea of setting aside natural areas to maintain their intrinsic values is not a purely western concept. Rather, since time immemorial, people in almost all parts of the world have excluded certain natural areas from use, whether for religious reasons (e.g. the "sacred groves" of West Africa) or for the conservation of certain resources or species (e.g. the forest, elephant, fish and wildlife reserves of the ancient Indian Maurya Empire in the 2nd and 3rd centuries BC) (CHAPE ET AL., 2005).

In the past decades, the idea of a national park has been further developed several times and still national parks represent the most widespread type of legally protected areas in the world. In parallel, numerous other forms of protected areas have been

established, which together form a worldwide network (PLIENINGER & BENS, 2008). Especially international conservation organizations and academic institutions have helped this development. Primarily the growth of protected area knowledge has resulted from the work commenced by the International Union for Conservation Nature (IUCN) and the National Parks Commission (NPC) (now the World Commission on Protected Areas; WPCA). Despite the increase in global nature conservation agreements and the establishment of protected areas, the protected area designations used by the countries were not necessarily directly comparable between countries. There are over 1000 different terms known that are used worldwide to designate protected areas (CHAPE ET AL., 2005). Therefore, at the first World Conference on National Parks in 1962, a uniform nomenclature and definition of protected areas was discussed. This resulted in the definition of the World Conservation Union (IUCN) in 1969, according to which a "national park" is a *"relatively large area of land that has not been substantially altered by human exploitation and occupation and where the highest competent authority in the country has taken measures to prevent or eliminate the exploitation or occupation of the whole area"* (MCNEELY ET AL., 1994).

In the beginning the main focus of national parks was the protection and the permanent preservation of a unique landscape and natural resources. At the same time, the provision of a special nature experience for visitors was also of great importance in the designation of national parks. Although the relative importance of the two functions has changed in the course of the history of national parks between countries and also between individual parks within the same national boundaries, but the bipolar task of national parks has been preserved and developed to this day (PETROVA, 2014). In the course of the 20th century the reasons for the designation of national parks changed. From this decade and onwards, the protection of ecological systems came to dominate the ideas behind the designation of national parks. One reason for that was, in the 1960s ecology was established as an independent scientific discipline (HABER, 2018), so that concepts such as "ecological planning" and "endangered species" were included in the designation of national parks (EAGLES & MCCOOL, 2002). In addition, many national parks were founded at that time, which excluded social interests of use.

Nowadays, the most important goals of national parks are not only the protection of nature, but also the experience of unique and wild nature. This experience of natural beauty, aesthetics, power, vitality and violence, which differs so much from the experience of cultivated cultural landscapes, is supported by the park administrations with

targeted offers of environmental education (NATIONALE NATURLANDSCHAFTEN E. V. (ED.), 2020A). Although national parks and other protected areas, especially in North America, Africa and Asia, have long been the destination of many tourists, European countries have only recently begun to include comprehensive planning of tourism development in large-scale protected areas (JOB ET AL., 2005).

3.2 The National Park System in Norway

The first protected area in Norway was established in 1884 and it took another 80 years before the first national park in Norway was designated (VAN KOPPEN & MARKHAM, 2013). The first and oldest national park in Norway is the Rondane Mountains National Park, a large mountain area with a significant population of wild reindeer, established in 1962 (HAUKELAND, 2011). The numbers of protected areas and national parks have grown considerably since the 1960s, as hydro-electric power and other human interventions increasingly posed a threat to the natural heritage (VAN KOPPEN & MARKHAM, 2013). As a result 21 national parks (including the Svalbard archipelago) were established between 1962 and 1990 (KALTENBORN ET AL., 1999). In 1986 a new National Park Plan was presented, and approved by the Parliament in 1992 (HONGSLO ET AL., 2016). This plan provided for the designation of a further 23,000 km^2 of protected area in addition to the existing 21 national parks. A total area of 15,000 km^2 on the Norwegian mainland has been placed under legal protection, including 12 new national parks and over 350 nature reserves. Additionally, two existing national parks have been extended and a number of protected landscapes have been established adjacent to the national parks (NORWEGIAN MINISTRY OF CLIMATE AND ENVIRONMENT (ED.), 2014). The national parks are managed by the Norwegian Environment Agency (Miljødirektoratet). Management plans have been drawn up for all the larger protected areas, containing management and conservation objectives as well as guidelines for the use of the area, information, facilities for visitors etc. A special aspect is that the National Park Plan does not apply to Svalbard. The establishment of national parks on the archipelago is regulated by the Svalbard Environmental Protection Act (NORWEGIAN MINISTRY OF CLIMATE AND ENVIRONMENT (ED.), 2014).

Although Norway is known for its wild coasts and impressive fjord landscapes, the Norwegian national park system has long been limited to high altitude areas. Therefore, almost 85 percent of the area of Norway's national parks consists of mountains, with plateaus, sharp mountain peaks, canyons, and glaciers. Only four national parks are marine areas, were at least 98 percent of the preserved areas are under water

(INNOVATION NORWAY (ED.), 2020B). The main reason why coastal or forest areas are so under-represented compared to mountain regions is that Alpine areas have limited economic interests and fewer conflicts over resources (HAUKELAND, 2011).

From the very beginning, the establishment of the national parks was not only about nature conservation, but also about the benefits for the people. They are just as many economic areas for the local population as they are recreational areas. Furthermore, the majority of national parks in Norway are located on public land, but some national parks include private land as well (KALTENBORN ET AL., 1999). In some cases, access is restricted out of consideration for nature, and some parks are used by the indigenous Sámi population for reindeer husbandry. In national parks, as everywhere in Norway, the Norwegian right to roam the countryside (*Allemannsretten*) applies (cf. chap. 3.2.1) (Miljødirektoratet (Ed.), 2020a).

At present Norway has 3.117 protected areas, of which 47 are national parks (seven on the Svalbard archipelago) (cf. Fig. 3). Thus, 9.7 percent of the Norwegian mainland, 1 percent of sea area (territorial waters) and 24 percent of the land area of Svalbard are designated as national parks (STATISTICS NORWAY, 2020).

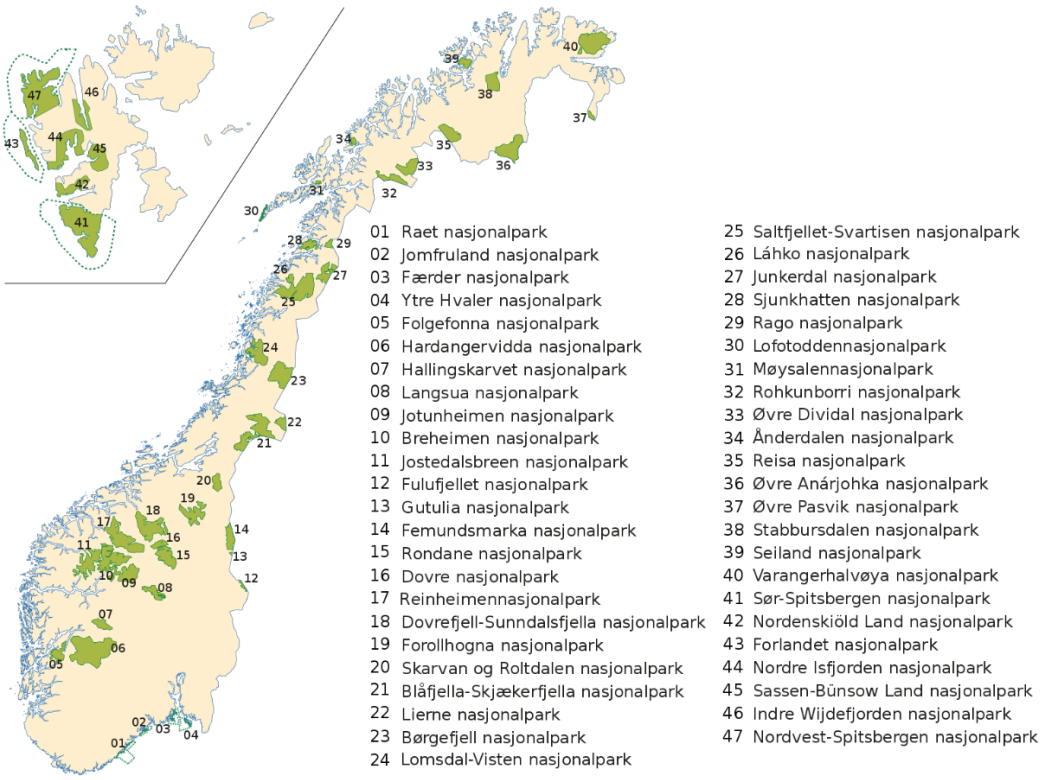

Figure 3: Map of Norwegian National Parks (NORWEGIAN ENVIRONMENT AGENCY, 2018)

3.2.1 Management Regimes, Legislations & Policies

According to SECTION 3, NATURE CONVERSATION ACT 1995, national parks are created to preserve larger unspoiled, unique or beautiful nature areas. Central motives for protection are the preservation of wilderness areas, large ecosystems and the protection of nature areas for outdoor life (FAGERL, 2007). To achieve these objectives management regimes, legislation and policies are important instruments to ensure that the tasks and aims of national parks are safeguarded. Therefore, each national park has a specific regulation (*Verneforskriften*) that defines the geographical boundaries of the protected area, the main objectives, guidelines, instructions for motorized traffic (usually prohibited) and management (HEIBERG ET AL., 2005). According to SECTION 35, NATURE DIVERSITY ACT 2009 a draft strategic management plan shall be presented when a decision is made to protect an area, so normally each national park has its own management plan. These management plans are prepared by the relevant management authority (typically the district governor). The main purpose of these plans is to provide clear user guidelines and information on management measures. In addition, besides user interests, protection values should be clarified and taken into account, as well as the potential of visitor needs should be considered.

Almost all national parks have a special network of marked trails and refuges throughout the park. Besides, 14 parks have national park information centers (*nasjonalparksenter*), where visitors can obtain detailed information about the natural history and cultural heritage of the respective park. The most important tasks of the information centers are to create an awareness for the protection of endangered habitats and species, and to raise the value of large contiguous nature areas. Furthermore, they should contribute to the development of tourism while taking care that the use of national parks does not conflict with the conservation objectives (DIREKTORATET FOR NATURFORVALTNING (ED.), 2005). There are 23 national park municipalities (*nasjonalparkkommunene*) and five national park villages (*nasjonalparklandsbyene*) that cooperate with the national park centers to provide information about the services offered to visitors.

Together, the information centers, park municipalities, park villages and local businesses are part of the national park brand strategy introduced in 2015. The aim of this strategy is to tie stakeholders closer together, as well as to communicate the important message of both visit and protect to users and visitors (SNØHETTA (ED.), 2015). *"Nature should be used, but not consumed"* (INNOVATION NORWAY (ED.), 2015). At the

same time, the national parks offer opportunities for the development of a broad local and national economic, cultural, social and ecological added value (NORGES NASJONALPARKKOMMUNER OG NASJONALPARKLANDSBYER (ED.), 2017). Visitor management should facilitate and manage the use of communal areas so that the visitor experience and local added value are maximized while natural features are preserved. Furthermore, visitor management can be seen as a way to regulate visitors, both from an environmental, socio-cultural and economic point of view.

A special aspect in Norway is the public right to roam the countryside (*allemannsretten*), which is a traditional right from ancient times and generally acknowledged in the national parks. Since 1957 it is laid down in the Act on Outdoor Living (*Lov om friluftslivet*) (INNOVATION NORWAY (ED.), 2020A). It ensures that everyone can experience and enjoy nature and allows activities such as hiking, picnicking, berry picking, fishing and hunting in ”soft” forms as long as they have the least possible impact on natural resources (Miljødirektoratet (Ed.), 2020a).

In the past, Norwegian protected areas were managed by a central bureaucracy with expertise in nature conservation. However, the interests of stakeholders were excluded both in the establishment and management of the areas (RISVOLL ET AL., 2014). Due to growing criticism of the system and a reform of government, the management of the national parks has changed. Since the 1980s Norway has been striving for greater local participation in the management of protected areas (FAUCHALD & GULBRANDSEN, 2012; HOVIK & REITAN, 2004) and reforms have given municipalities more powers in environmental policy matters (FALLETH & HOVIK, 2009). One reason for these political changes was a series of conflicts between central and local governments over nature conservation management (DAUGSTAD ET AL., 2006), another motivation was the response to international political trends (HONGSLO ET AL., 2016). International organizations such as the United Nations (UN) and the European Union (EU) have particularly promoted decentralization in nature conservation management (FAUCHALD ET AL., 2014; HONGSLO ET AL., 2016). In 2009, a comprehensive reform was introduced that included all national parks and large nature conservation areas (FALLETH & HOVIK, 2009; FAUCHALD & GULBRANDSEN, 2012; HONGSLO ET AL., 2016). This reform establishes more than 40 local administrative boards with extensive decision-making powers for a large part of Norway's protected areas (including national parks, protected landscapes and nature reserves) (FAUCHALD ET AL., 2014). These boards, which are made up of elected politicians from affected communities,

have the power to draw up and revise management plans, but these must be approved by the Norwegian Environmental Agency (HONGSLO ET AL., 2016).

3.3 The National Park System in Germany

As already mentioned, the first national parks in Europe were designated in Sweden in 1909, following the American example of protecting and preserving extraordinary natural phenomena, protecting biodiversity, ecosystems and other natural treasures (ŠOLAR, 2010). Additionally, in Germany the first suggestions for the establishment of national parks were made as early as the end of the 19th century and have been discussed throughout the years. However, it took quite some time until the mid-1960s, when an initiative of local authorities, environmental associations, politicians and nature conservationists started a new discussion. Finally, in 1970, this led to the Bavarian Forest being designated as the first German national park (NATIONALE NATURLANDSCHAFTEN E. V. (ED.), 2020C). This was the starting point for the development of national parks in Germany and was followed in 1978 by the Alpine National Park Berchtesgaden. For a long time, the further designation of national parks stagnated, and it was not until German reunification that the national park areas and their number increased significantly. In particular, this was due to the transitional government of the German Democratic Republic (GDR) and the GDR national park program (WWF (ED.), 2008B). In its last meeting on 12th September 1990, the Council of Ministers of the GDR decided to permanently secure 14 large-scale protected areas. These included six biosphere reserves, three nature parks and five national parks, so that 4.5 percent of the land area of eastern Germany was protected. (BMU (ED.), 2020). Through their inclusion in a supplementary agreement to the Unification Treaty, which was finally approved by the two German parliaments, these 14 large-scale protected areas gained permanent protection after 3rd of October 1990 (German Unification Day). Simultaneously, between 1985 and 1990 the first national parks along the coast were designated. Within these five years, the entire Wadden Sea along the German coast was divided into three national parks: the Schleswig-Holstein Wadden Sea National Park (founded 1985), the Lower Saxony Wadden Sea National Park (founded 1986) and the Hamburg Wadden Sea National Park (founded 1990). Over the years, further parks have been designated and with the designation of Hunsrück National Park at the beginning of 2015, the 16th and to date last national park was set aside (NATIONALE NATURLANDSCHAFTEN E. V. (ED.), 2020E). Although the "national park tradition" in Germany can now look back on over 40 years, it is still quite young compared to other countries (SCHERFOSE, 2014).

Most of Germany's national parks are located on the edge of the country's territory in peripheral regions with few opportunities for use. Only the three national parks Harz, Hainich and Edersee-Kellerwald are located on the inner periphery of low mountain ranges (JOB ET AL., 2005). With the exception of the Eifel National Park and Sächsische Schweiz, they are located far away from the densely populated and economically dominant conurbations (JOB & LOSGANG, 2012). For this reason it is not surprising that regional economic interests play a major role in the selection of locations for national parks (JOB ET AL., 2005). For a long time, the importance of national parks was a marketing instrument for endogenous natural space potential in structurally weak regions. It is only due to the growing environmental awareness of the population that ecological reasons for the designation of national parks have increasingly come to the fore, such as representativeness instead of rarity, biodiversity instead of beauty, process protection instead of identification object (JOB ET AL., 2005).

For Germany the characteristic natural landscape types include forests, coastal landscapes, high mountain ecosystems above the forest line, watercourses with alluvial landscapes, as well as peatlands and lakes (NABU (ED.), 2006). National parks should represent these most important natural habitats of a country, but this status has not yet been achieved for Germany (JOB ET AL., 2005; TOBIAS, 2018). Apart from the Wadden Sea and the Baltic Sea Bodden, all other habitats are clearly under-represented, as the three Wadden Sea National Parks alone cover about 76% of the total national park area in Germany (BREITKOPF, 2020). All other ecosystem types (high mountains, river floodplains etc.) are preserved as national parks on only 0.6% of the national territory (BREITKOPF, 2020; WWF (ED.), 2008B). Although there are other areas that are suitable as national parks, especially with regard to the protection of beech forest ecosystems, further projects in Germany fail to succeed because of economic interests and resistance from parts of the local population (BFN (ED.), 2020).

There are currently over 130 large-scale protected areas in Germany, 16 of which are national parks (cf. Fig. 4) (TOBIAS, 2018). The area of the national parks varies between 30 km^2 (Jasmund) and 4,400 km^2 (Schleswig-Holstein Wadden Sea), resulting in a total area of 10,478.59 km^2 for all national parks. However, excluding the marine areas of the North Sea and Baltic Sea, this is just 2082.38 km^2, which corresponds to about 0.6% of Germany's terrestrial area (BFN (ED.), 2020A).

Figure 4: Map of German National Parks (GENERIC MAPPING TOOLS CC BY-SA 3.0, 2015).

3.3.1 Management Regimes, Legislations & Policies

According to § 24 PARA. 2, BNATSCHG, 2009 (*Bundesnaturschutzgesetz*) the aim of national parks is to ensure the undisturbed flow of natural processes in their natural dynamics in a large part of their area. As far as the purpose of protection allows, national parks should also serve the scientific observation of the environment, education in natural history and the experience of nature by the population. To achieve these goals management regimens, legislations and policies are important tools, which will be examined in more detail below.

The purpose of national parks is therefore to preserve the natural landscape, i.e., to protect species diversity and to ensure that ecosystem processes are as unaffected as possible. As long as the purpose of protection is not affected, tourism is accepted here and is even a priority objective according to the IUCN guidelines (JOB ET AL., 2005). The Federal Nature Conservation Act (*BNatSchG*) stipulates that the main requirements are closeness to nature, size of area, ownership, impairment by infrastructure and development potential (§ 24 PARA. 1, BNATSCHG, 2009). This means that the minimum size for national parks in Germany should be 10,000 hectares and that the area for natural dynamics should occupy 75% of the land area after a transitional period of a maximum of 30 years (NATIONALE NATURLANDSCHAFTEN E. V. (ED.), 2020B). Besides the successful measures to protect dynamic processes, the main task of national parks is environmental education, recreation, research and long-term environmental monitoring (NABU (ED.), 2006).

In 2005, the national brand "*Nationale Naturlandschaften*" (National Natural Landscapes) was founded by the association EUROPARC Germany to enable a common and uniform appearance of the large-scale protected areas (JOB ET AL., 2016). This label brings together the majority of Germany's large-scale protected areas, including all 16 national parks, all biosphere reserves and several of the 105 nature parks. The common brand was developed in particular because nature conservation in Germany is a matter for the federal states „Länder". The goal is thus a common appearance and nationwide communication (uniform corporate design), an increase in awareness and a strengthening of the appreciation and importance of the large protected areas (MARZAHL, 2019).

Most of the existing German national parks are currently still "development national parks", i.e., they only partly fulfil the criteria for large-scale, undisturbed natural development. Further suitable control measures laid down in management plans are to be implemented within 20 to 30 years of the designation of the parks, in order to create the conditions for giving priority to natural and dynamic processes in nature in a large proportion of the areas (BFN (ED.), 2020A). This concept was introduced for national parks in Europe in 1997 by the World Commission on Protected Areas (WCPA). After 30 years, 75% of the national park area should be free of controlling human measures and be left to process protection (NATIONALE NATURLANDSCHAFTEN E. V. (ED.), 2020E). Process protection is a nature conservation strategy that was coined by the German forest ecologist Knut Sturm. In the narrower sense, it is based on "letting

nature be nature", i.e. not intervening in the natural processes of ecosystems (ALTMOOS & JÄGER, 2017).

For each of the 16 national parks a management plan is proposed. In the case of the Wadden Sea National Parks, the trilateral Wadden Sea Plan takes over this function (EUROPARC DEUTSCHLAND E. V. (ED.), 2013). In principle, the plans contain the main areas of responsibility, strategies and measures to achieve the guiding principle and the set objectives (EUROPARC DEUTSCHLAND E. V. (ED.), 2008), while the implementation of the management plans is carried out through annual work plans. The degree of implementation of the measures varies from park to park and depends significantly on the park's financial resources (EUROPARC DEUTSCHLAND E. V. (ED.), 2013). The quality standards for German national parks stipulate that management planning must also specify time horizons and indicators for the achievement of individual objectives. An important element of this is the definition of measures for monitoring success. The management planning is to be completed no later than five years after national park designation and is to be updated regularly, at the latest every ten years (EUROPARC DEUTSCHLAND E. V. (ED.), 2008). However, the updating of the management plans every 10 years is only legally required in one third of the national parks (EUROPARC DEUTSCHLAND E. V. (ED.), 2013).

In the German national parks, the national park administration is responsible for management, organization, financing etc. The organizational structures differ between the individual federal states and are anchored in the respective state nature conservation laws. In eight national parks, the administrations are directly subordinate to the supreme nature conservation authority as a special authority, in one park it is itself a part of the supreme nature conservation authority (HARZND/STGEMVWSTVTR ND, 2006). In other national parks, the highest nature conservation authority is only responsible for technical supervision, while the various offices of the forest administrations are responsible for official supervision (EUROPARC DEUTSCHLAND E. V. (ED.), 2012). However, their areas of responsibility are the same for each park and include the protection of natural processes, management, area care, maintenance of the recreational infrastructure, contribution to education for sustainable development, monitoring and research, communication, cooperation, participation in regional development in the national park environment and general administrative activities (EUROPARC DEUTSCHLAND E. V. (ED.), 2013). Basic funding for the national parks is provided by the respective federal state in order to be able to fulfil the above-mentioned tasks.

Financing by third parties to support the objectives is also possible and even desired. The financial resources can be used and managed independently and flexibly in about half of the parks.

4 Areas of Investigation

In the following chapter the different areas of investigation are presented. These are the two Norwegian coastal national parks Ytre Hvaler and Raet as well as the Wadden Sea National Park in Germany. The two Norwegian national parks Ytre Hvaler (cf. chap. 4.1) and Raet (cf. chap. 4.2) were chosen as the study areas for this thesis because they represent two of the four exclusively marine national parks in Norway. About 85 percent of the Norwegian national parks are mountainous and it was not until 2009 when Ytre Hvaler National Park was designated that a marine national park was established in Norway. This, in Norway, new form of national park poses new demands and challenges for the management of these areas. At the same time, coastal national parks, unlike many mountain national parks, are located in an easily accessible area. They are exposed to visitor pressure from land and sea and are also located in the catchment area of Norway's most populated regions. The third and last research area of this thesis is the Wadden Sea National Park in Germany (cf. chap. 4.3). A special aspect of the Wadden Sea along the German coast is that it comprises three different national parks: The Schleswig-Holstein Wadden Sea National Park (established in 1985), the Hamburg Wadden Sea National Park (established in 1990) and the Lower Saxony Wadden Sea National Park (established in 1986) (CWSS (ED.), 2010). In this thesis, the focus is only on the Schleswig-Holstein Wadden Sea National Park, which should serve as an example for the superordinate term "Wadden Sea National Park". One reason for that is, that no management plans in the sense of a solitary national park plan exist for the three Wadden Sea national parks. Instead, the current management plan for the national parks is the Trilateral Wadden Sea Plan (WSP) of 2010, which considers the entire Wadden Sea (SCHERFOSE ET AL., 2012). Another reason why the Wadden Sea of Schleswig-Holstein was selected as an example is that tourism, on which the focus of this work is to be placed, plays a special role in the federal state of Schleswig-Holstein.

4.1 Ytre Hvaler National Park (Norway)

The Ytre Hvaler National Park is a marine national park located in the southeastern part of the Oslo Fjord area in Norway. The park was created in 2009 and replaces the four bird sanctuaries Akerøya, Heia, Møren and Søndre Søster (Hvaler Kommune

Østfold (Ed.), 2009). The area covers 354 km^2, of which about 340 km^2 consists of water surface and only 4% of the national park is land. With 96%, almost the entire park is state-owned property, while the remaining 4% is privately owned by different landowners (REISTAD, 2019). The Ytre Hvaler National Park is situated in the county of Østfold,[2] in the municipalities of Fredrikstad and Hvaler. The park stretches west of the Hvaler islands Kirkeøy to Vesterøy from the islands Struten and Søster in the north to the Swedish border in the south, where it merges into the Swedish National Park Kosterhavet (STOKKE & HAUKELAND, 2018). Together they form the first trans-national national park area in Europe where both sea and land are protected (JACOBSEN, 2017).The main objectives for the establishment of the Ytre Hvaler National Park are to protect a large and relatively undisturbed natural landscape along the coast of south-east Norway, to preserve a landscape with a varied seabed topography with its various ecosystems on land and at sea (FYLKESMANNEN I ØSTFOLD (ED.), 2011; REISTAD, 2019).

The establishment of the Ytre Hvaler National Park, as the first of its kind, can be considered as a model for the establishment of marine national parks in Norway (HUBER, 2016). The process of establishing coastal protected areas was a long process and started in 1986 (JACOBSEN, 2017). In its work on the National Park Plan of 1986, the Norwegian Nature Conservation Council declared the need to ensure valuable coastal and archipelago nature in the outer Oslo Fjord (REISTAD, 2019). The County Governor of Østfold therefore submitted a proposal for protected areas in Hvaler and Fredrikstad, which paved the way for the designation of the Ytre Hvaler National Park. The actual establishment process was initiated in 2001 by the Municipality of Østfold in cooperation with the Swedish Marine National Park Kosterhavets (BAKKE, 2015). A large number of national and local actors were involved in the process to overcome initial resistance. Among the actors involved were political authorities and representatives of the national authorities responsible for the preparation of a draft plan. Local stakeholders were also involved, such as representatives of the municipalities of Hvaler and Fredrikstad, fishing organizations, voluntary organizations, a representative of landowners and the Oslofjord Outdoor Council (JACOBSEN, 2017). They were able to influence the draft and express their opinions (BAKKE, 2015). Although the planning process was participatory, it was nevertheless structured according to general routines and procedures with clear leadership by the governor of the county (HUBER,

[2] The province of Østfold is integrated into the present province of Viken after the Norwegian provincial reform in 2020 (DSS) (ED.), 2020).

2016; MORF ET AL., 2017). The Ytre Hvaler National Park was finally officially established by royal decree on 26 June 2009 (MILJØVERNDEPARTEMENTET (ED.), 2009).

The land areas and archipelago of the Ytre Hvaler National Park are relatively free from major interference with a small number of buildings and no significant technical installations (STOKKE & HAUKELAND, 2018). Glacial and marine erosion of the bedrock leads to great variations in landforms, ranging from smooth, rounded granite and gneiss on the shores of Hvalerøyene to the rough surface of the rare Rhomb-Porphyry conglomerate on Søsterøyene and Struten (DIREKTORATET FOR NATURFORVALTNING (ED.), N.D.; JACOBSEN, 2017). The undulating rocky coastline is repeatedly interrupted by narrow bays that form valuable wetlands. Further south, belts of low-growing riparian plants take over before the landscape is finally dominated by hills sparsely covered with pine trees. In between are crevices filled with lush deciduous forests (DIREKTORATET FOR NATURFORVALTNING (ED.), N.D.). Both on land and in the ocean, Ytre Hvaler National Park has a great variety of species, with a particularly high number of Red List species in the park. Hvaler is now the municipality with the most Red List species in Norway due to the protection plans and zones that have been introduced (NORWEGIAN ENVIRONMENT AGENCY (ED.), 2017). Furthermore, Ytre Hvaler National Park is a breeding and wintering area for seabirds, and many habitat types with rare insects, fungi and algae species are registered here (NORWEGIAN MINISTRY OF THE ENVIRONMENT, 2013). Among the species found are 260 different bird and 960 butterfly species (FYLKESMANNEN I ØSTFOLD (ED.), 2015). Large parts of the open coastal landscape were previously grazed and, on some islands, grazing still takes place today to ensure the preservation of the open landscape with its important habitats for many rare plant and insect species. On Vesterøy and Kirkøy, large parts of forest areas with important scientific protection values are preserved in the national park.

However, as mentioned above, most of the national park is below sea level and reaches depths up to 470 meters. A wide variety of marine habitats can be found here, both in shallow and deep water. There are wide areas of soft, muddy bottom covered with silt and clay. These areas are inhabited by crustaceans, worms and starfish, among others. Other areas are covered by dense kelp forests, which serve as a habitat for fish, crabs and mussels (DIREKTORATET FOR NATURFORVALTNING (ED.), N.D.). Furthermore, various coral reefs can be found in the national park area, including the Tisler reef (*Tislerrevet*), which is the largest recorded coral reef in European inshore waters (NORWEGIAN MINISTRY OF THE ENVIRONMENT, 2013). The reef is 2 km long, 200 m

wide at its widest point and has a depth-range of between 90 and 120 m and is therefore an important habitat for many different species (GUIHEN ET AL., 2012).

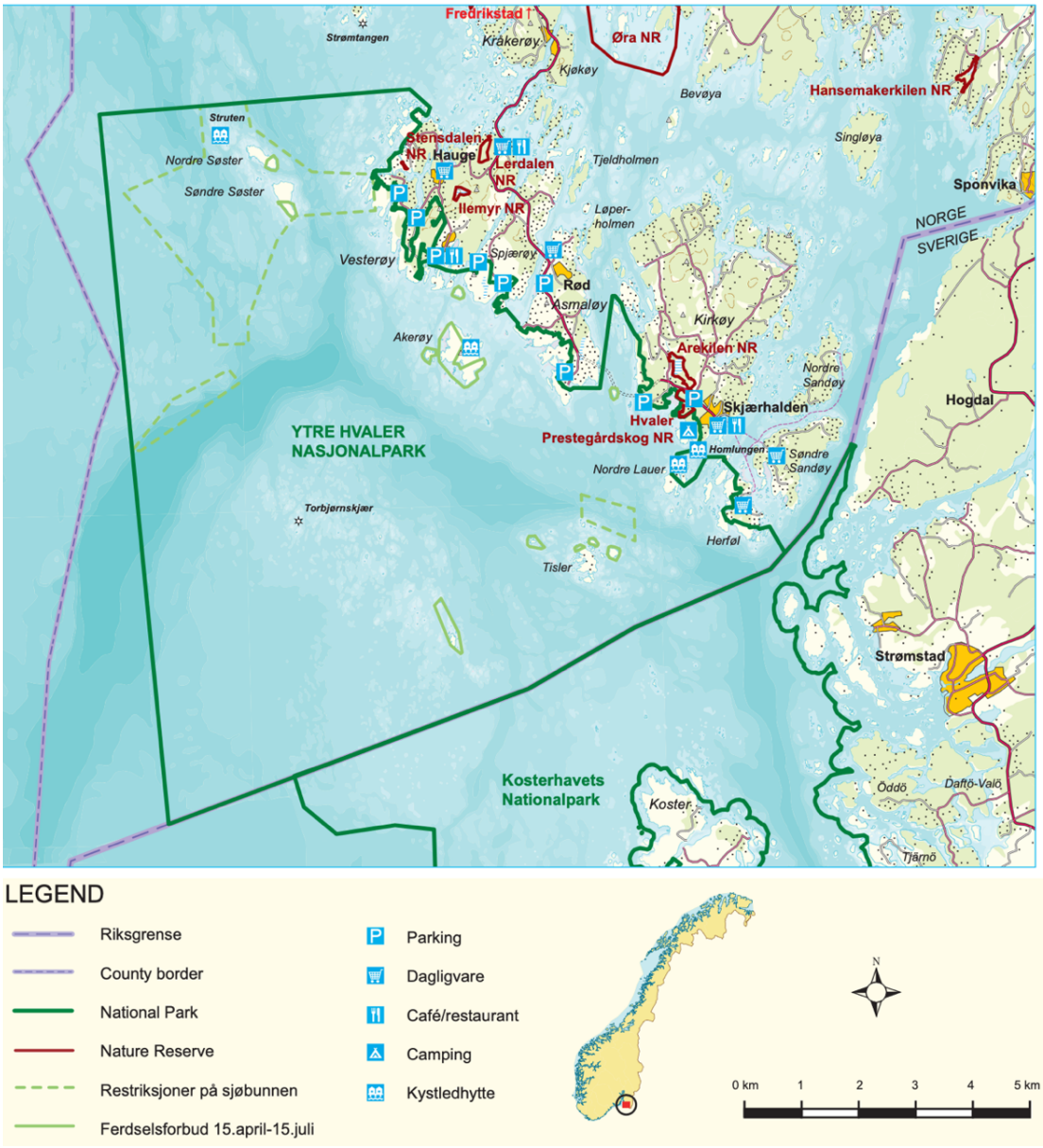

Figure 5: Map of Ytre Hvaler National Park (DIREKTORATET FOR NATURFORVALTNING (ED.), N.D.)

4.1.1 Management Authorities & Instruments

With the reform of the administrative legislation in 2009, the competent management authorities for a large part of the Norwegian protected areas changed (FALLETH & HOVIK, 2009). As a result, Ytre Hvaler National Park was given a local administrative authority from the very beginning. This is the National Park Council, which includes representatives from the municipalities of Hvaler, Fredrikstad and Østfold County Council (FYLKESMANNEN I ØSTFOLD (ED.), 2011). The board bases its decisions on the input of an advisory committee, which includes members from various interest groups and about 30 local organizations (JACOBSEN, 2017). Together they aim to ensure a

comprehensive and knowledge-based management of the national park and decide on applications for exemptions from nature conservation regulations (FYLKESMANNEN I ØSTFOLD (ED.), 2014B). Overall, the Norwegian national parks' administrative machinery is not very large, especially in comparison with many other countries (STOKKE ET AL., 2017). The only full-time state employee in the park is the national park manager (Monika Olsen). Other authorities such as the Norwegian Nature Inspectorate (SNO) and the Archipelago Service operate in the park without being directly employed by the national park board. The administrative center of the Ytre Hvaler National Park is located in Skjærhalden in the so-called Skjærgårdens hus. The park administration is based here, together with the SNO and Archipelago Service, with a view of the Ytre Hvaler National Park. The Ytre Hvaler National Park Center, which is operated by the Cultural Department of the Municipality of Hvaler, is located close to Skjærgårdens hus (FYLKESMANNEN I ØSTFOLD (ED.), 2012).

Management Plan

In 2008, the District Governor of Østfold was commissioned by the Directorate of Nature Management to draw up a management plan for the Ytre Hvaler National Park. Work on the management plan commenced on 6 February 2009 and the deadline for proposing the plan was 31 December 2009 (FYLKESMANNEN I ØSTFOLD (ED.), 2014A). The Management Plan for Ytre Hvaler National Park is intended to be a practical tool to maintain and promote the conservation purpose and to ensure predictability and equal treatment in the handling of cases. The development of the management plan for the terrestrial area was carried out with the assistance of an advisory group and 5 working groups involving stakeholders. These working groups represented important user interests such as metallurgical property, cultural monuments, outdoor life, transport and information. There was also a separate working group dealing with natural properties and conservation objectives, management and grazing issues. The work on marine issues in the management plan had its own process involving fisheries authorities, fishermen's organizations and other stakeholders (FYLKESMANNEN I ØSTFOLD (ED.), 2011). The exact contents of the management plan, listed by area of application with the associated management objectives, can be found in Table 1.

Table 1: Overview of the management objectives of the Ytre Hvaler management plan sorted by application area (FYLKESMANNEN I ØSTFOLD (ED.), 2011).

Application Area	Management Objectives
Landscape	• Conservation of ecosystems with naturally occurring species and populations • Preservation of an underwater landscape with varied bottom topography • Preserving open and wooded coastal landscapes and managing them to maximize their value for biodiversity → Forest areas must have a natural succession of typically occurring species/habitat types in unspoiled nature → Open coastal areas must be maintained and, where appropriate, managed with naturally occurring species/habitat types
Habitat Types and Vegetation on Land	• Conservation of plant and habitat diversity in the protected area • Viable populations of Red List species must be maintained, while selected typical and characteristic habitat types are preserved
Wildlife Management Objectives	• Conservation of the biodiversity of naturally occurring animal species • Good ecological status of breeding and nesting sites for seabirds and seals • Monitoring of nesting seabirds with a focus on Red List species • Conservation of outdoor life and reefs, while avoiding negative impacts on threatened species and key functional areas
Natural Marine Environment	• Conservation of marine ecosystems with naturally occurring species and populations • Conservation of hard and soft soils and seabed with coral reefs → management to maximize the value of biodiversity • Ensuring a good habitat for marine algae and animals and the conservation of existing Red List species
Non-Native Species	• Prevention of the introduction of non-native species • Control and prevention of the dispersal of blacklisted high-risk species • Preventing the long-term spread of non-native marine species
User Interests: Fisheries	• The Hvaler area can be used as a resource for private fishing and the fishing industry within the conservation objective • Areas in Ytre Hvaler National Park must be able to be used for commercial and recreational fishing
User Interests: Agriculture	• Grazing must continue at least to the point of protection, provided it does not adversely affect conservation values • Grazing lands in the national park must be intact and have sufficient grazing pressure to have at least the same nature as today • Timber harvesting should not interfere with the natural features of the national park
User Interests: Cultural Monuments	• Safeguarding and maintenance of protected and unprotected cultural monuments to preserve cultural and historical values • Buildings of cultural and historical value should be maintained through use • Measures aimed at agriculture, transport, landscape etc. must be seen in the context of cultural monuments

4 Areas of Investigation

User Interests: Research and Education	• Research and education are carried out as long as it is in accordance with the conservation objectives • Promotion of research and teaching on nature management and the sustainable use of marine and land-based ecosystems in the national park
User Interests: Outdoor Living	• The national park provides opportunities for the public to experience nature and the landscape through the practice of traditional and simple outdoor living • There should be little technical facilitation → Special attention must be given to consideration of endangered vegetation and endangered wildlife when facilitating outdoor living and transportation → Considerate traffic must be a goal for outdoor living in the protected area → Necessary provisions can be made for nature-friendly and easy outdoor living • Future development of tourism, outdoor living, and transportation in portions of the protected area and at certain times of the year may conflict with the goals of preserving natural values • The goal is to balance facilitating outdoor living with maintaining and enhancing important natural features and long-term survival of endangered species
User Interests: Natural resources	• Extraction of various natural resources shall not adversely affect conservation values in Ytre Hvaler National Park
User Interests: Buildings	• The area must be secured against small and large encroachments → No new buildings will be constructed in the national park → Buildings used to facilitate outdoor living must have a design and location that is not harmful to the natural environment and is adapted to the landscape
User Interests: Tourism	• Environmentally appropriate tourism can be implemented and developed as long as it does not conflict with the conservation purpose of the national park
User Interests: Vehicular Traffic	• The goal is to keep driving in the national park to a minimum - only absolutely necessary driving on land → The number of permits and the scope of each permit shall be kept to a minimum → Consider the drawbacks associated with automobile traffic and ensure that they are kept to a minimum

Zoning

The majority of Ytre Hvaler National Park covers the marine environment. Although there are many types of habitat that are vulnerable to human activities, the marine part of the park is not as restricted as on land. For this reason, five different protection zones (zones A-E) have been introduced here to fulfil the protective purpose of the national park (FYLKESMANNEN I ØSTFOLD (ED.), 2011; LØCHEN, 2012).

Zone A has a size of 33.82 km^2 and is the only zone with seabed restrictions. The purpose of the strict restrictions is to protect the seabed with all species and types of substrate and not only the coral reefs (FYLKESMANNEN I ØSTFOLD (ED.), 2011). A variety of soil types are protected at different depths, including soil substrates such as solid rock, large rocks/blocks, gravel, sand, clay. All activities that can damage the seabed are forbidden and therefore "*fishing with equipment that is towed during fishing and in this context may touch the bottom*" is prohibited (FYLKESMANNEN I ØSTFOLD (ED.), 2011). Outside zone A, fishing for shrimp and crabs with trawls is permitted. **Zone B** consists of two smaller areas in Skipstadkilen and Vikerkilen on the island of Asmaløy, which has a hunting ban aimed at bird protection (LØCHEN, 2012). These wetlands and beach meadows are important migration and resting areas for birds and the hunting ban is intended to reduce disturbance of birds (FYLKESMANNEN I ØSTFOLD (ED.), 2011). The remaining **zones C-E** aim at specific traffic bans. For example, traffic is prohibited in **zones C and D** from 15 April to 15 June for the nesting of seabirds (zone C) and the reproduction of young seals (zone D) (FYLKESMANNEN I ØSTFOLD (ED.), 2011; LØCHEN, 2012). Furthermore, camping is prohibited in parts of zone C. Following areas belong to zone C (seabirds): Skjellholmen, Kobbernaglen, Kvernskjær, Alne, Tangen (part of Tisler), Store Ølbergholmen, parts of Akerøya with Vesleøya, Møren, Heia, parts of Nordre Søster and parts of Søndre Søster (Fredrikstad). **Zone D** (Seals) covers: Storeribba, Kuskjær, Flatekollen, Kollen, Skjærsribba and Kolleribba (Hvaler). The zones are limited to approximately 50 m from land (FYLKESMANNEN I ØSTFOLD (ED.), 2011). In **zone E** there are speed limits to ensure the protection of the natural environment. Here the use of a motorboat is permitted with a speed limit of maximum 5 knots (FYLKESMANNEN I ØSTFOLD (ED.), 2011). Shipping in connection with commercial fishing is excluded from this speed limit of 5 knots in zone E.

Visitor Management

The Ytre Hvaler National Park is not only a retreat for many different bird, butterfly or sea species, but it also offers recreation for many tourists. The area is used for many purposes and new forms of recreation in nature and nature-related tourism are increasing. These include activities such as kiting, diving and kayaking, and the use of recreational boats is also increasing rapidly both inside and outside the summer season. The fact that tourism plays a special role in Ytre Hvaler National Park depends to a large extent on the circumstance that 1.5 million people can reach the area within about 2 hours by car. The population figures of the municipality of Hvaler, where parts of the national park are located, also illustrate the attractiveness of the region, as well as holiday home tourism. While the population of the municipality of Hvaler is about 3,700 people in winter, in summer it increases many times over to 30,000. This is due to the fact that Hvaler has a large number of second homes (approx. 4,650) which are mainly used for tourism.

This makes it even more important to develop a well-thought-out visitor strategy for the national park. This has also been recognized by the parliament (*Storting*) ,where it was decided that all national parks must develop a visitor strategy by 2020 (EIDE ET AL., 2018). Thereby, a vulnerability assessment and user surveys must be included in the basic material for the visitor strategy. In the end, the visitor strategy should include necessary measures to balance the preservation of conservation values with the facilitation of visitors and local value creation in order to maximize the benefits for all three interests. If there are conflicting objectives between preserving conservation values and facilitating visitors, then preserving conservation values has the highest priority. At the time this thesis was written, Ytre Hvaler National Park unfortunately had not yet published a visitor strategy. Two reports from The Norwegian Institute for Nature Research (NINA) were used as a knowledge base for the development of the visitor strategy. The reports are a vulnerability assessment on the islands of Asmaløy, Kirkøy and Akerøya (NINA Report 1499) and a user survey from 2018 (NINA Report 1607). The following points can be derived from these, which are part of the content of the visitor strategy:

I. Visitor management focuses on joint measures rather than company-oriented measures. The National Park Board is responsible for tasks related to infrastructure (information boards, path marking) and the exercise of powers (construction matters, car traffic).

II. The tourism industry is responsible for business-oriented measures and has the leading role such as marketing, booking, commercial measures and product development.

III. Relevant tasks for the cooperation are e.g., brochures and other Information material.

4.2 Raet Nation Park (Norway)

In 2016, two more coastal national parks were designated in Norway, bringing the total number of coastal parks to four. These two new parks are Jomfruland National Park and Raet National Park, both located on the outer coastline of southern Norway. Raet National Park is the largest coastal national park in Norway, with a total area of 607 km^2, of which 599 km^2 is at sea and 8 km^2 on land (EEA (ED.), 2020). The national park is located in Aust-Agder province (since 2020 Agder province) and stretches from Fevik in the west to Lyngør in the east, crossing the three municipalities of Grimstad, Arendal and Tvedestand (LINDEBJERG, 2017). The outer national park border in the sea extends in the widest area up to 12 nautical miles (TVEDESTRAND, ARENDAL OG GRIMSTAD KOMMUNER (ED.), 2016). Unlike other national parks, the Raet National Park was not named because of its geographical location, but on the basis of a geological phenomenon. The term "Raet" refers to glacial moraine deposits from the Ice Age about 10,000 years ago, whose geological formation is found throughout Scandinavia (HARRIS ET AL., 2017). The moraine follows the Baltic Sea coast, from Norway across Sweden and Finland to Russia. The national park was established to recognize the cultural and geological importance of the coastal landscape left behind when the Scandinavian ice shield receded. At the same time the tourism - especially international tourism - was in the spotlight, so that the designation of the national park was intended to improve the link between tourism and nature conservation (PROKOSCH, 2018).

After the first step for coastal national parks in Norway was taken with the establishment of the Ytre Hvaler National Park in 2009, the County Governor of Aust-Agder took the initiative to investigate the possibilities of establishing a national park at the basis of the Raet Landscape Protection Area. In agreement with the municipalities of Tvedestrand, Arendal and Grimstad, preparatory work was carried out in spring 2012. A prerequisite for the start of the process in 2013 was that the three municipalities support the nature conservation proposal and that local participation is a priority in the conservation process (TVEDESTRAND ARENDAL OG GRIMSTAD KOMMUNER (ED.),

2016). A special aspect of the Raet National Park is that it took only five years from the idea to the national decision of the park. The reason why the process was able to take place in this record time is the broad support at the municipal level. This differs from many other national park designations, which had to overcome initial resistance by with major problems of acceptance by the local population. Thus, the Raet National Park was officially established by royal decree on 16 December 2016. With the establishment of the Raet National Park, the existing protected areas within the park boundaries were abolished or integrated. Parts of the former Raet Landscape Protection Area were continued as Hove Landscape Protection Area and parts of the former Hasseltangen Landscape Protection Area as Søm Landscape Protection Area. Due to camping activities, extensive agricultural activities and several properties, these areas could not be converted into national park area and are therefore continued as protected landscape areas. However, in many parts the landscape protection areas have the same protection goals and conservation values as the national park. Therefore, there is no separate management plan for the Raet National Park, but a combined management plan for the three protected areas, which are collectively managed by the National Park Authority of Reat National Park (TVEDESTRAND, ARENDAL OG GRIMSTAD KOMMUNER (ED.), 2016).

The area of the national park is free of major infrastructural interference, but there are 132 vacation properties, which are not permanently inhabited, within the parks boundaries and several hundred close to the park border (RAET NASJONALPARK (ED.), 2017). Some cabins have road access and are used for both passenger and luggage transport by car, and there are also cabins with private moorings for boats. (TVEDESTRAND, ARENDAL OG GRIMSTAD KOMMUNER (ED.), 2016). In total, private owners own about 87.5% of the land area in the national park, the rest belongs to the public sector (FYLKESMANNEN I AUST-OG VEST-AGDER (ED.), 2016). The entire coastal landscape in the national park is the result of the enormous ice masses' work during the Quaternary Period, so the whole area of the park is characterized by glacial moraines. Typical for these terminal moraines are the pebble beaches, which are strongly washed out by the sea (HARRIS ET AL., 2017). Commonly occurring geological types are larvikite, Rhomb-Porphyry conglomerate, hornfels and gneiss. Furthermore, it is not uncommon to find fossils on the beaches, which were transported by the ice from northeastern areas (RAET NASJONALPARK (ED.), 2017). The coastal areas along the national park vary a lot in their habitat types. In addition to larger areas with deciduous forest species such as beech forest, ash forest and linden occurrences. These deciduous forests are

mainly located in the western part of the national park in the municipality of Grimstad. Further east (Arendal municipality) is an area that is very accessible for tourists and mainly consists of pebble beaches. Continuing east in the municipality of Tvedstrand, the largest part of the national park is located submarine and on the islands in the archipelago (RAET NASJONALPARK (ED.), 2017). The different biotope types along the coasts are an important habitat for avifauna, especially during bird migration. For this reason, there are several bird sanctuaries in the national park, which provide a habitat for seabirds in particular. Nutrient-rich groundwater areas provide a good supply of nutrients for diving ducks, cormorants and terns. Muddy bays and seagrass beds are particularly important for resting wading birds. Sea eagles are also increasingly being sighted in the national park area, even though they are still nesting outside the national park.

The submarine part of the park is also characterized by varied shapes due to glacial movements. At depths of up to 500 m there are terraced seabed landscapes with both hard and soft soils, dominated by glacial moraine areas. These areas contain highly productive kelp forests with a rich biological diversity, such as fish, crustaceans, benthic algae, mollusk and worms (HARRIS ET AL., 2017; KNUTSEN ET AL., 2010). In particular the lobster is present in large numbers where it can produce exponentially more eggs due to its higher life expectancy in the protection zone (PROKOSCH, 2018). In protected and shallow coastal areas, habitats with soft soil as well as seagrass and mudflats communities can be found.

Overall, the area is very suitable for tourist activities such as boating, kayaking, windsurfing, fishing and hiking. (RAET NASJONALPARK (ED.), N.D.).

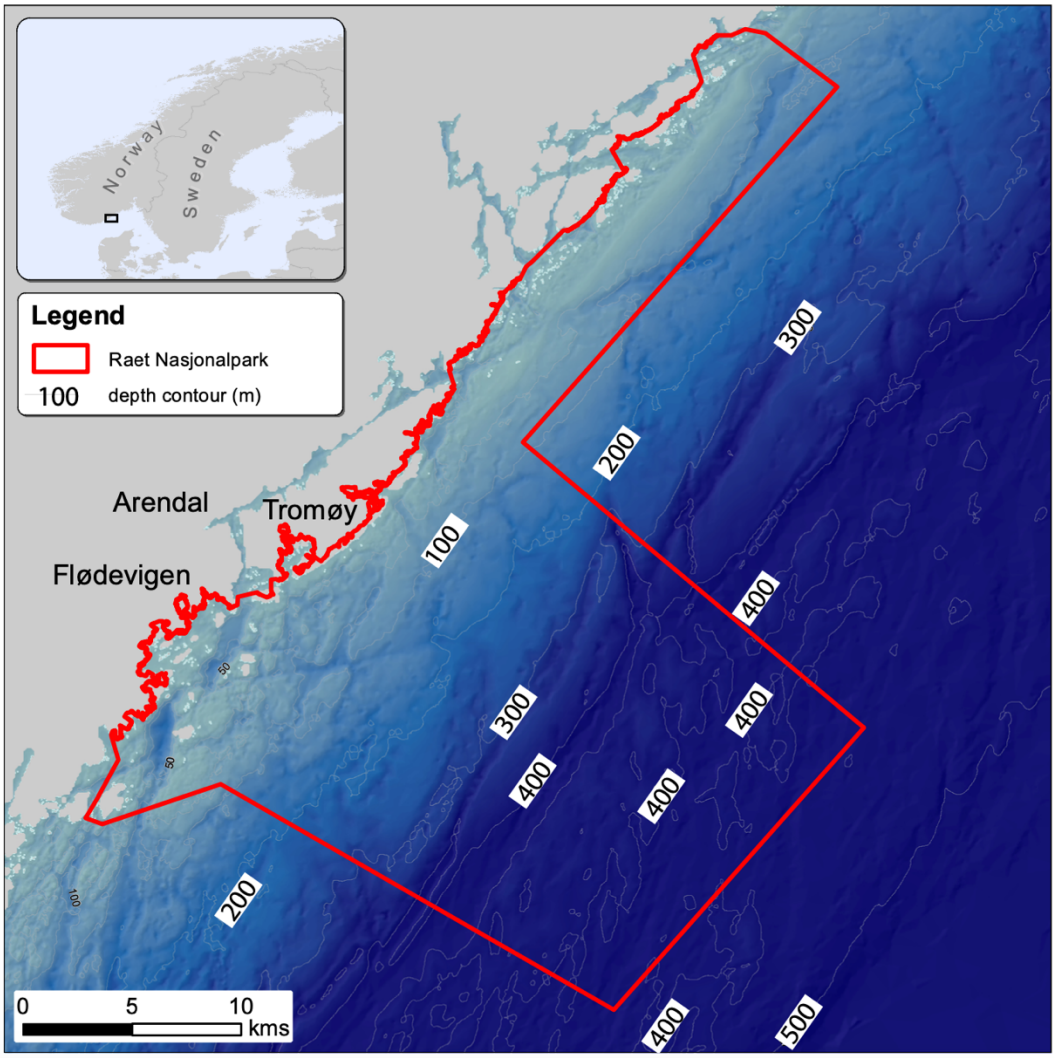

Figure 6: Map of Raet National Park (HARRIS ET. AL., 2017).

4.2.1 Management Authorities & Instruments

As mentioned above, since 2010, responsibility for managing protected areas has been divided between central and local government authorities (COUNTY GOVERNOR - FYLKESMANNEN (ED.), 2017). Thus, the management administration of Raet National Park is very similar to that of Ytre Hvaler National Park. The authority to manage the Raet National Park has been delegated by the Ministry of Climate and Environment to the Raet National Park Board (MILJØDIREKTORATET (ED.), 2020B). This board consists of representatives of the three municipalities, the Agder district and two landowner representatives (FYLKESMANNEN I AGDER (ED.), 2017). Together, the National Park Board is responsible for the management of the Raet National Park and the Søm Protected Landscape Area. The main task is to comply with the nature conservation rules and to develop management and maintenance plans. Other tasks include processing applications for measures in the areas, marking the park boundaries, providing information and signposting, and drawing up a visitor strategy (FYLKESMANNEN I AGDER

(ED.), 2017; MILJØDIREKTORATET (ED.), 2020B). In addition, there is a National Park Manager (Jenny Marie Gulbrandsen), who reports to the Board of Directors on matters relating to the management of the park. The main tasks of the park manager are to maintain good contact with the local environment and to ensure that management is in accordance with international obligations, national guidelines, the Biodiversity Act and the area's conservation regulations (MILJØDIREKTORATET (ED.), 2020B). There is also a National Park Centre for Raet National Park, but unlike the information centre in Ytre Hvaler National Park, it is not yet officially recognized. It is located in Gjeving, close to the national park, in the same building as the Coastal Culture Centre (Lyngørfjorden Kystkultursenter). While the National Park Centre provides information about the natural diversity of the national park, the Coastal Culture Centre contains information about the history of seafaring, coastal culture and a maritime collection. There is also information about the rules of conduct and how to get to the National Park by boat.

Management Plan

As part of the protection process for the establishment of the Raet National Park, a management plan was drawn up as one of the most important management instruments. In the case of the Raet National Park, this also includes the Hove Landscape Protection Area and the Søm Landscape Protection Area. The draft management plan has been prepared by the Raet National Park project group consisting of representatives from the municipalities of Tvedestrand, Arendal and Grimstad, the municipality of Aust-Agder, the Directorate for Fisheries Region South and the Governor of Aust- and Vest-Agder[3] in co-operation with the reference group of representatives from the local municipality. The management plan is a tool for creating a comprehensive and predictable management of the protected areas and contains descriptions and information about the protected area. It also describes measures to promote the purpose of protection, as well as specific guidelines for use, maintenance, administration, application processes, etc. The structure and design of the management plan is prepared by the Norwegian Environmental Protection Agency and is based on a template. In addition to the different management objectives listed in the table below, three different protection zones have been introduced.

[3] Aust-Agder and Vest-Agder are united in the province of Agder since 1.1.2020 (DSS) (ED.), 2020).

Table 2: Overview of the management objectives of the Raet management plan sorted by application area (TVEDESTRAND, ARENDAL OG GRIMSTAD KOMMUNER (ED.), 2016)

Application Area	Management objectives
Landscape and Quaternary Geology	• Geological diversity must be preserved
Habitat Types and Vegetation on Land	• Ensuring the natural free development of habitat types • Conservation or restoration of valuable managed habitats and depositions • Reducing or eliminating the presence of non-native harmful species • Maintaining the variation from non-administrative areas and areas with administrative habitat types
Wildlife on land	• Diversity of naturally occurring animal species through conservation of internal habitats • Conservation of endangered species and subspecies. Improving knowledge of endangered species, in particular insects • Dynamic protection of seabirds through temporary signage, traffic bans, etc. • Establishing good ecological status of breeding sites for seabirds and seals • Avoidance of unnecessary disturbance to nesting seabirds • Monitoring ecosystem effects of seal populations, cormorants and geese
Natural Marine Environment	• Preserving the ecological function and high biological diversity of seaweed and sugar kelp forests and shellfish sand • Preserving the ecological function and high biodiversity of soft ground and seagrass beds in the beach zone • Conservation or enhancement of biodiversity in marine deep-water habitats • Monitoring and control of harmful non-native species • Monitoring and disposal of marine litter, and removal of local waste sources
Marine Wildlife	• To safeguard breeding, rearing and habitats for marine organisms, seabirds and marine mammals • The sea areas in the Raet National Park are a resource for commercial and recreational fishing within the scope of the conservation objective
Cultural Monuments	• Management and conservation of cultural monuments as exploitable resources and as a basis for knowledge, experience and value creation
Outdoor Living	• The management and operation of secured outdoor areas shall contribute to good outdoor living experiences while preserving the conservation values and other features of the areas • Provisions for outdoor living and information shall be made as planned to avoid damage to conservation values. At the same time, provisions shall be made to provide visitors with the experiences and knowledge that the national park has to offer
Construction and Infrastructure	• Management of buildings in the national park should contribute as much as possible to safeguarding and promoting the conservation objective • Buildings with cultural-historical value are to be maintained as far as possible through use and preserved in their traditional style • Building measures must be considered in a holistic and long-term perspective so that deterioration of conservation values can be avoided, including deterioration as a result of many small changes over time

Zoning

The protection regulations form the framework for what is permitted within a protected area. The Raet National Park also has its own protection regulations and restrictions, which are adapted to the existing protected areas. In addition, three different zones have been established in the national park for special protection purposes. Zone A covers 143.9 ha, Zone B has a size of 46.3 ha and Zone C is the largest zone with 5858.4 ha (FYLKESMANNEN I AUST-OG VEST-AGDER (ED.), 2016).

In **zone A**, the purpose is to take care of bird life, especially with regard to seabirds and their nesting places (LUNDBERG ET AL., 2018). In this zone there is a traffic ban during the breeding season, which also applies to maritime traffic closer than 50 m to land (TVEDESTRAND ARENDAL OG GRIMSTAD KOMMUNER (ED.), 2016). **Zone B** serves to protect endangered habitat types and species (LUNDBERG ET AL., 2018). In this zone, contrary to the law on outdoor activities, there is a ban on camping. Outside the zone, this law allows camping up to two days in one place ("two-day rule") (TVEDESTRAND ARENDAL OG GRIMSTAD KOMMUNER (ED.), 2016). **Zone C** is intended to preserve areas of special scientific importance as reference areas in the sea (LUNDBERG ET AL., 2018). This means that no physical movement to the seabed is allowed within this zone. Fishing with towed gear touching the bottom is therefore prohibited (FYLKESMANNEN I AUST-OG VEST-AGDER (ED.), 2016).

Visitor Management

The Raet National Park differs from many other Norwegian national parks in having a densely populated area with many tourism companies in or near the national park. That is why from the very beginning the idea behind the designation of the Raet National Park was not only to protect nature but also to promote tourism in the three municipalities. The national park is situated close to the town centers of Grimstad, Arendal and Tvedestand and can be reached by sea and by land. It is likely that visitors will partly visit the park because it represents unspoiled nature, but also because of the offers made by the tourism companies (LUNDBERG ET AL., 2018). The number of visitors have been calculated to be 1.4 million (ID 02) and a large part of the use of the national park are unorganized activities such as kayaking, windsurfing, hiking, fishing and swimming (RAET NASJONALPARK (ED.), 2017). Nevertheless, with a total of about 50 different user interests, the breadth and diversity of participants and stakeholders is huge. An important part of the usage is related to the use of recreational boats and beach life, so the park is more frequented in summer. However, there are also some

land areas that are heavily used all year round. In addition, various associations and clubs use the national park area for different activities, including kindergartens and schools for environmental education, and universities for geological excursions. Even though no businesses are located in the national park area, there are, a number of activities and uses that have an economic-related influence on the national park. Thus, every year different events are organized which take place in the national park. These include music festivals such as Hovefestivalen and Canalstreet and the Tvedestrandsregattaen, a motorboat race that takes place in the Tvedestrandsfjord, with parts of the route being within the national park. Various sporting events and competitions are also regularly organized in the park (TVEDESTRAND ARENDAL OG GRIMSTAD KOMMUNER (ED.), 2016).

In 2019 a visitor survey was carried out in the Raet National Park as part of the development of the visitor strategy. This revealed, among other results, that the majority of visitors (53%) have a local connection to the national park and 23% said they were first-time visitors. More than three-quarters (76%) of those interviewed stated that they were on a day trip with an average stay of 3 hours. The user survey also showed that Raet National Park has a lower proportion of international visitors than many other protected areas in Norway. The proportion of Norwegian visitors was 92% and only 8% were foreigners. This resulted in the aim of an international national park strategy for the National Park Administration to attract more international tourists. The national park's most popular destinations include Spornes (38%), Hoveodden (38%), Hove-Amphitheater (32%), Merdø (28%) and Hasseltangen (23%) (NINA (ED.), 2019).

The data obtained from this survey also served as the basis for a visitor strategy. This strategy has been prepared for the National Park Authority and covers both the National Park and the Søm Protected Landscape Area (NINA (ED.), 2019). The aim of the visitor strategy, which was adopted by the Raet National Park Board on 19th of September 2019, is to contribute to an information strategy that is as uniform as possible, while at the same time providing information about local nature and visitor values. The strategy also aims to contribute towards improving the understanding of the protection.

The three major objectives of the visitor strategy for the Raet National Park and the Søm Protected Landscape Area are:

I. The protected areas are to be preserved without major changes and the conservation values are not to be negatively affected by visitors.
II. The protected areas should contribute to growth and positive development for the local economy in the region and to a better experience for visitors to the region.
III. Good experiences with the national park will increase knowledge, understanding and pride in the conservation values and coastal culture (NINA (ED.), 2019).

4.3 Wadden Sea National Park (Germany)

The Schleswig-Holstein Wadden Sea National Park is the northernmost national park in Germany and, as the name suggests, includes the Schleswig-Holstein part of the Wadden Sea. Founded on 1 October 1985, the national park covers the coastal area of Schleswig-Holstein on the North Sea from the German-Danish sea border in the north to the estuary of the Elbe in the south (cf. Fig. 7) (BFN (ED.), 2012). In the northern area (as far as the island of Amrum), the national park border follows the twelve-mile line, and to the south it continues along the three-mile line. The national park border on the land side is approximately 150 m off the coast, so sea dikes and the immediate dike foreland are not part of the national park (LEGLER, 2006). On the land side, almost 70 municipalities border on the national park with a total of 290,000 inhabitants. The largest towns are Husum and Heide (NATIONALPARK WATTENMEER (ED.), 2018A). Also excluded from the national park are most of the beaches and the populated areas in the sea, including the five German North Frisian Islands and the large *Halligen*: Langeneß, Hooke, Gröde, Oland and Nordstrandischmoor (NATIONALPARK WATTENMEER (ED.), 2018A). With approx. 2.3 % (10,155 ha), the land area of the national park is quite small and consists mainly of salt marshes, while 68 % of the national park remains permanently under water and approx. 30 % periodically dries up in the tidal cycle (NDR (ED.), 2020). Due to a significant expansion in 1999, the national park now has a total area of 4,410 km^2, which makes it the largest national park in Germany (NABU E. V. (ED.), 2006). The national park area can be divided into two areas. In the north, between the Danish border and the peninsula of Eiderstedt, lies the North Frisian part, where the mudflats are up to 40 km wide. On the south coast of Eiderstedt up to the estuary of the Elbe is the Dithmarsch part, which is mainly characterized by sandbanks.

Figure 7: Map of the Wadden Sea National Park (HSrV (Ed.), n.d.)

Efforts to protect nature in the Wadden Sea have been going on for a considerable time. For example, the oldest nature reserves in Schleswig-Holstein on the island of Sylt were established as early as 1923. The first demands to protect the Wadden Sea as a whole were made in the 1960's (NDR (Ed.), 2020). Since 1962, the nature conservation association Wadden Sea Conservation Station *(Schutzstation Wattenmeer*) has been working to promote the unique biotope on the North Sea coast by founding

information centers, publishing information on the protection of the Wadden Sea and promoting the establishment of a protection zone (NDR (ED.), 2019). Two years after the establishment of the Bavarian Forest National Park, the term "national park" was first used in connection with the Wadden Sea in 1972. However, due to massive resistance in the affected regions, a draft law of the Ministry of Agriculture was cancelled. The next major success was that in 1974 the state government was able to put an area of 1,400 km^2 between the Hindenburg Dam near Sylt and the peninsula of Eiderstedt under nature conservation. (NDR (ED.), 2019). In 1978, the three Wadden Sea states Denmark, Germany and the Netherlands decided to work together to protect the Wadden Sea and the "Trilateral Cooperation for the Protection of the Wadden Sea" was established (WWF (ED.), 2017). Nevertheless, it was not until 1982 that the subject of "national parks" was taken up a second time, which again led to great resistance from the local population. Despite the enormous protest, the state government passed the National Park Act on 22 July 1985 (NATIONALPARKAMT SCHLESWIG-HOLSTEINISCHES WATTENMEER (ED.), 2005). In addition to the coastal population, nature conservation organizations were also critical of the national park. The reason for this is the fear that more nature will be destroyed by additionally attracted tourists than the national park status can protect (NDR (ED.), 2020). Over time, the discussions about the national park law settled down, even if individual topics such as the ban on hunting/fishing were controversially discussed. Between 1989 and 1996, large-scale ecosystem research was conducted in the Wadden Sea. This resulted in a completely renewed National Park Act, which was signed on 17 December 1999 and brought about a significant expansion of the area covered by the national park (NATIONALPARKAMT SCHLESWIG-HOLSTEINISCHES WATTENMEER (ED.), 2005).

The Wadden Sea was formed after the latest ice age 10,000 years ago (DIERßEN, 2014). The glacial melting caused the water level to rise, allowing organic and inorganic sediments to settle in the shallow coastal regions (Nationalpark Wattenmeer (Ed.), 2018a). Twice a day, the tide carries sand, clay and silt into the Wadden Sea area and the fine-grained mudflats, and the coarser sandflats were formed. The tidal range - which increases from north to south - is between 1.5 and 3.7 meters in the national park (WITEZ, 2002). More than two thirds of the area of the national park is taken up by areas that are permanently under water (sublittoral), 30% of the tidal flats are dry at low tide and are flooded at high tide (eulittoral) (STOCK ET AL., 2012). The rest are land areas (supralittoral) that are only flooded under special circumstances. Since inhabited areas are not part of the national park, the land areas consist almost exclusively of salt

marshes, with a small remainder of sandbanks and dunes. The salt marshes cover an area of over 100 km^2. A total of around 3,200 animal species can be found in the Wadden Sea National Park, 250 of which only occur in the salt marshes (NATIONALPARK WATTENMEER (ED.), 2018A). Furthermore, the Wadden Sea is the most bird rich area in Central Europe, which is due to the fact that it lies on the East Atlantic migration route of costal birds. More than 2 million birds pass through the national park each year and about 100,000 pairs breed there. Additionally, 63 species of fish, such as plaice, herring and sole, as well as sea mammals including grey seals and harbor porpoises can be found in the Wadden Sea National Park (NATIONALPARK WATTENMEER (ED.), 2018A).

Human activities in the national park includes tourism, fishing, coastal protection, grazing, shipping and air traffic, military trials, oil production, gravel and sand extraction (NATIONALPARK WATTENMEER (ED.), 2018A). That oil production takes place in the area of the national park is due to the fact that oil production is guaranteed as it was authorized before the national park was established. In addition, the authorization to produce oil on the oil production platform "Mittelplate A" was extended in 2010 for another 30 years until 2041 (NATIONALPARK WATTENMEER (ED.), 2014). Oil production is prohibited by law at other locations in the national park. However, no infrastructure facilities exist in areas of particular importance for habitat and species conservation or are only present in low density (SCHERFOSE ET AL., 2012). There are two year-round residents on Hallig Süderoog and a total of four residents in the summer half of the year. Further infrastructure consists of national park centers (information centers), but there are no holiday homes or cabins in the national park area. Most of the national park is owned by the federal government (98.3 %), while 1.6 % belongs to the Federal State of Schleswig-Holstein. Only 0.1 % are privately owned (SCHERFOSE ET AL., 2012).

Furthermore, most parts of the Wadden Sea area are now designated as Special Protection Areas (SPAs) under the EU Birds Directive and as natural habitats under the Habitats Directive, thus forming the NATURA 2000 site for the Wadden Sea. In addition, the national park has been classified as a wetland of international importance under the Ramsar Convention and as a Particularly Sensitive Sea Area (PSSA) (NABU (ED.), 2008). The area of the Wadden Sea of Schleswig-Holstein, Lower Saxony and the Netherlands has also been recognized as a UNESCO World Heritage Site since 26 June 2009. The Hamburg Wadden Sea received its UNESCO World Heritage

designation in summer 2011, the Danish National Park Vadehavet in 2014 (GERMAN COMMISSION FOR UNESCO E.V. (ED.), 2016)

4.3.1 Management Authorities & Instruments

The national park authorities have a special character in the case of the Wadden Sea National Park. Due to the Trilateral Wadden Sea Cooperation (TWSC) there is an international administrative apparatus and at the same time a national administration for the Wadden Sea National Park. At international scale, there are two levels responsible for decision-making and administration. On the one hand, the Trilateral Wadden Sea Governing Council is the politically responsible body for the cooperation. This committee monitors the cooperation and provides political leadership and mediation between the three governments. At the second level, the Wadden Sea Board is the governing body of the cooperation. It prepares and implements the strategy, oversees the operational and advisory bodies and ensures relations with key stakeholders (CWSS (ED.), 2010).

With regard to the national administration of national parks in Germany, it must first be mentioned that national parks are a national task for which the federal government sets framework requirements in the Federal Nature Conservation Act. Nonetheless, in Germany the federal states are responsible for nature conservation, so organizational forms in Germany are highly diverse (NATIONALPARK WATTENMEER (ED.), 2018B). In Schleswig-Holstein the National Park Authority is the responsible nature conservation authority for the national park. Until 2007 the national park was administered by the National Park Authority, which was directly subordinate to the Schleswig-Holstein Ministry of Nature, Environment and Regional Development (LEGLER, 2006). However, this changed at the beginning of 2008, when the National Park Authority became part of the newly established State Agency for Coastal Protection, National Park and Marine Protection of Schleswig-Holstein (LKN-SH) (NATIONALPARK WATTENMEER (ED.), 2015). This is intended to link the overlapping tasks of coastal protection with those of the national park and to improve coordination. The national park authority is therefore not a separate authority but a division of the LKN-SH (LKN-SH (ED.), 2019). The business distribution plan of the National Park Administration comprises 4 departments with 9 main task areas (monitoring & research, communication & public relations, management, regional development, cooperation, education, area management, administration, nature conservation) (SCHERFOSE ET AL., 2012). The main task of the National Park Administration located in Tönning is the development of

protection concepts and their monitoring. In order to ensure this, the National Park Administration has a total of 87 employees (48 full-time and 39 part-time) (NATIONALPARK WATTENMEER (ED.), 2015; SCHERFOSE ET AL., 2012). The national park also has 15 full-time rangers and 15 volunteer national park attendants. Their tasks include area control, supervision of research facilities and data collection, educational work with school classes and technical work (construction of information boards, etc.) (SCHERFOSE ET AL., 2012). Moreover, numerous information centers are available along the coast of Schleswig-Holstein and on the islands to raise awareness of the interrelationships of life in the Wadden Sea. In total, there are 24 information centers distributed along the entire coast and on the islands. Most of the facilities offer exhibitions, guided tours, educational holidays, and lectures on current topics throughout the year and to inform about the basic idea of the national park and the World Heritage Site. The largest information center is the Multimar Wattforum in Tönning, which was opened in 1999 and extended for the first time in January 2003 (NATIONALPARK WATTENMEER (ED.), 2021).

Management Plan

A major characteristic of the Wadden Sea National Park is that there is no separate management plan. Instead, since 1997 the trilateral Wadden Sea Plan (WSP) has been a joint management plan for all three countries (Denmark, Germany, the Netherlands), which was updated in 2010 (EUROPARC DEUTSCHLAND E. V. (ED.), 2013; SCHERFOSE ET AL., 2012). In this management plan, the entire Wadden Sea is considered on the basis of ecological quality objectives. The WSP offers *"[...] a framework for the integrated management of the Wadden Sea Area as an ecological entity, as well as its landscape and cultural heritage [...]. It sets out a series of targets, as well as policies, measures, projects and actions to achieve these targets [...].*" (CWSS (ED.), 2010). The WSP also includes a trilateral monitoring and evaluation program, including joint evaluation of management effectiveness in the form of quality status reports. These evaluations are used to adapt the measures to the evaluation results (EUROPARC DEUTSCHLAND E. V. (ED.), 2013). The exact contents of the trilateral management plan, listed by area of application with the associated management objectives, can be found in Table 3. The WSP is not binding under international law but has a high degree of political and moral commitment. Furthermore, the WSP contains defined objectives and measures for the national park in Schleswig-Holstein which are in line with legal requirements and are therefore binding (SCHERFOSE ET AL., 2012). The WSP is also supplemented in Schleswig-Holstein by regional and use-specific

guidelines. In the form of programs, contracts or other agreements, there are for example guidelines on foreshore management (coastal protection), shellfish industry and tourism (framework concepts with tourism priority areas in North Frisia (*Nordfrisland*), strategy for sustainable tourism in the World Heritage region) (MELUND SH (ED.), 2018)

Table 3: Overview of the management objectives of the trilateral Wadden Sea management plan sorted by application area (CWSS) (ED.), 2010).

Scope of application	**Management objectives**
Landscape and Culture	• Identity - to preserve, restore and develop the elements that contribute to the character, or identity, of the landscape, which forms the basis for life of the people living in the region • Variety - to maintain the full variety of cultural landscapes typical for the Wadden Sea landscape History - to conserve the cultural-historic heritage • Scenery - to pay special attention to the environmental perception of the landscape and the cultural historic contributions in the context of management and planning
Water and Sediment	• A Wadden Sea ecosystem that can be considered as a eutrophication-free non-problematic area • Improvement of habitat quality to preserve species
Salt Marshes	• Conservation of the full diversity of salt marshes typical of the Wadden Sea landscape. Increasing the area of salt marshes with natural dynamics • Increased natural morphology and dynamics, including natural drainage of salt marshes on the mainland • Vegetation diversity of the salt marshes reflecting the geomorphological conditions of the habitat with variations in vegetation structure • Favorable conditions for all typical species
Tidal Area	• Natural dynamic situation in the tidal zone • Enlargement of geomorphologically and biologically undisturbed tidal flats and subtidal areas • Natural size, distribution and development of natural mussel beds, *sabellaria* reefs and *zostera* fields
Beaches and Dunes	• Increased natural dynamics of beaches, primary dunes, beach plains and primary dune valleys in conjunction with the offshore zone. • Increased presence of a complete natural vegetation sequence
Estuaries	• Protection of valuable parts of estuaries • Conservation and where possible restoration of natural habitats and the tidal dynamics typical of estuaries • Maintain and, where possible, restore the riverbanks to their natural state • Maintaining and, where possible, restoring the function as a migration route and breeding ground for fish and birds

Scope of application	Management objectives
Offshore Area	• An elevated natural morphology, including the outer deltas between islands
Rural Area	• Favorable conditions for flora and fauna, particularly for migratory and breeding birds • Good ecological connectivity between the tidal area, salt marshes and rural areas
Birds	• Breeding success and survival are determined by natural processes • Reproduction, feeding, moulting and roosting sites that support a natural population • Undisturbed connectivity between breeding, feeding, moulting and resting sites fluctuations in food stocks determined by natural processes • Habitat, food stocks and connectivity between habitats that support a favorable conservation status
Marine Animals	• Viable stocks and natural reproductive capacity of seals, including the survival of juveniles • Viable stocks and natural reproductive capacity of the grey seal, including the survival of juveniles • Viable populations and natural reproductive capacity of harbor porpoise maintaining the quality of habitats to conserve species
Fish	• Viable population stocks and natural reproduction of typical Wadden Sea fish species • Occurrence and abundance of fish species according to natural dynamics under (a)biotic conditions • Favorable living conditions for endangered fish species • Conservation of the diversity of natural habitats as a substrate for spawning and rearing of juvenile fish • Preservation and restoration of the passages for migratory fish between the Wadden Sea and inland waters

Zoning

According to the National Park Act, anything that could harm nature or the animals and plants in the national park is prohibited. In order to guarantee these requirements, there are special protection zones in the national park. In Germany, national parks should be divided into three protection zones: resting zone, intermediate zone and recreational zone. The rest zone is the central zone of nature conservation and therefore has the highest protection priority. The other two zones are open to tourists (JEß, 2014). The Wadden Sea National Park is divided into two protection zones. The zoning thus follows a different system than that provided for national parks. Overall, the entire territory of the national park is located in one of the two protection zones.

Protection zone I is based on the natural environment and comprises mainly entire tidal flats with a complete inventory of the ecosystem complexes typical for the Wadden Sea. The zone has a size of 157,000 ha and contains a use-free area of 125,000 ha (SCHERFOSE ET AL., 2012). Zone I is in principle closed to the public, the only exceptions being tidal flats directly adjacent to the coast for mudflat tourists, routes for guided mudflat walks and fishing (CWSS (ED.), 2010; NATIONALPARK WATTENMEER (ED.), 2018A). Fishing in zone I mainly comprises shrimp fishing and, since 2012, only in exceptional cases mussel fishing (SCHERFOSE ET AL., 2012). In addition, there are smaller units around particularly sensitive areas such as seal banks or the breeding colonies of seabird species, places where many migratory birds moult, as well as geomorphologically significant areas with natural surface structures (CWSS (ED.), 2020). The 125,000 ha of use-free area ("zero use zone") is located south of the Hindenburg Dam on the land side of Sylt, and around 3,500 ha of the zone is permanently covered by water (NATIONALPARK WATTENMEER (ED.), 2019). In this zone, nature is left to itself and all uses, including fishing, are prohibited. Only the use of the fairways is permitted for passage, with speed limits (NORDFRIISK INSTITUUT (ED.), N.D.). It is also not permitted to enter this zone, so that mudflat walks are also prohibited here.

Protection zone II covers an area of 284,000 ha and forms a so-called "buffer zone" around zone I, in which sustainable uses are permitted. This zone also includes the 124,000 ha whale sanctuary (see Fig. 7). This area is an important breeding ground for harbour porpoises, whose North Sea population has declined by 90% in the 20th century (UBA (ED.), 1998). While uses such as swimming, sailing or traditional crab fishing are still possible in the area, it is intended to prevent international industrial and bottom-set fishing, jet-skis, ship speeds exceeding twelve knots, military activities and

exploitation of resources (sand, gravel, gas or oil) (SCHUTZSTATION WATTENMEER E.V. (ED.), N.D.).

Visitor Management

For more and more people in Germany nature and the experience of nature play a decisive role in choosing their holiday destination. At the same time, the North Sea coast of Schleswig-Holstein is traditionally one of the most popular destinations in Germany. So, it is not surprising that Schleswig-Holstein is strongly influenced by tourism. Every year, around 2 million overnight guests and another 14 million day visitors choose the west coast and thus the national park region as their destination (NATIONALPARK WATTENMEER (ED.), 2018A). This makes tourism one of the most important economic factors on the west coast of Schleswig-Holstein. The actual figures are probably much higher than the official statistics, as these do not include private accommodation with less than ten beds, permanent camping, relatives' and acquaintances' residences (NTS (ED.), 2019). It is also difficult to determine the number of day visitors. According to SECTION 2 PARA. 3 NPG (1999) the conservation of nature through the national park should also - through positive repercussions on tourism and the reputation of the region - serve sustainable development to improve the living and working conditions of people living in the surrounding area. There are currently 1,589 commercial accommodation establishments in the national park travel area, with a total bed capacity of 80,835 beds. There are also 46 campsites with 4,391 tourist pitches (NTS (ED.), 2019). The relative contribution to national income is 41%. Around 42,000 people earn their living from tourism, which generates a gross annual turnover of 1.8 billion Euros (NATIONALPARK WATTENMEER (ED.), 2010). While accommodation is located outside the national park boundaries, many activities such as hiking, cycling, horse riding or water sports take place in the national park. There are also many guided activities such as sailing trips to seal banks, guided tours on the topic of seabirds, plants in dunes and salt marshes, as well as natural history bicycle tours to five nature reserves (GÄTJE ET AL., 2007; LKN-SH (ED.), 2015). In Schleswig-Holstein, about 5,000 guided mudflat walks with about 115,000 participants (approx. 20-25 persons per tour) are carried out every year (BJARNASON ET AL., 2017). With a number of measures, the Wadden Sea National Park tries to create the conditions for nature and tourists to coexist. These include measures such as zoning, so that visitors can move freely in nature, while sensitive areas are sufficiently protected from disturbances. In addition, the national park's comprehensive visitor information system is intended to raise awareness among visitors and to provide an attractive range of offers

for experiencing nature and environmental education (GÄTJE ET AL., 2007). To achieve these goals, the national park's partners work closely with the National Park Authority and there is a visitor strategy. These include nature conservation associations, municipalities and tourism information centers, tourism providers, organic farms and national park mudflat guides (LKN-SH (ED.), 2015).

The Wadden Sea National Park has a spatial visitor concept which also takes nature conservation issues into account. This visitor information system, which consists of various elements such as information boards and maps, nature trails, signposts, pavilions, provides information about the local conditions, natural history features and regulations at the required places (SCHERFOSE ET AL., 2012). Meanwhile about 750 elements can be found at 250 locations along the mainland coast as well as on the islands and halligs (LKN-SH (ED.), 2019). Other visitor guidance measures include route bans, bans on access and area controls by rangers (SCHERFOSE ET AL., 2012). This system is intended to provide information and guide visitors at the same time. The National Park Authority also maintains the National Park Centre (Multimar Wattforum) as well as the National Park House in Wyk on Föhr and the "*Wattwerkstatt*" on the Hamburg Hallig. In addition, associations/municipalities maintain 26 national park stations and seven national park houses (SCHERFOSE ET AL., 2012). All national park stations, houses and the center offer different thematic focuses and, with two exceptions, all information facilities are located outside the national park (NATIONALPARK WATTENMEER (ED.), 2017). In 2018, a total of almost 1 million people visited these facilities to learn about the Wadden Sea and the national park (LKN-SH (ED.), 2019). Furthermore, the national park is only accessible on foot in the peripheral areas. So, there are no roads or permanent paths that cut through the area. While the national park is freely accessible by boat, there are only two places (St. Peter-Ording and Hamburger Hallig) where driving is permitted at certain times (SCHERFOSE ET AL., 2012).

5 Methodology of Data Collection and Analysis

In order to pursue the research questions, this study uses a combination of different qualitative methods. These include document analysis and the guideline-based expert interview, as well as the expert survey with the help of a questionnaire. The following sub-chapters will explain in more detail why these types of methods were chosen, what exactly characterizes these methods and how the selection of the interview partners is justified. Furthermore, the procedure for preparing the guideline will be briefly

described in this context. Finally, the procedure for analyzing the data obtained will be explained.

5.1 Document Analysis

Document analysis is often used at the beginning of a study to familiarize the researcher with the subject matter. The author quickly gains an insight into the tasks, processes, interfaces and framework conditions of task completion in the field of investigation and, in addition, the document analysis provides important clues for preparing, supplementing or deepening further surveys within the scope of the investigation (BMI & BVA) (EDS.), 2018). Thereby the Document analysis is a systematic procedure for reviewing or evaluating documents (printed and electronic) (BOWEN, 2009). Similar to other methods of analysis in qualitative research, document analysis requires repeated review, verification and interpretation of the data to gain meaning and empirical knowledge about the construct under study (FREY, 2018). The available documents are evaluated and checked for contradictions. Contradictions, ambiguities, etc. can be clarified in the further process within the other qualitative methods.

In this thesis, the document analysis provides background information, definitions of terms and the current state of research. In order to obtain the most detailed information possible and to achieve a good comparability of the national parks, the document analysis was extended to include the qualitative data evaluation of expert interviews and surveys.

5.2 The Guideline-Based Expert Interviews

According to GLÄSER & LAUDEL (2010) the method selection of a research process must be aligned with the formulated research questions. Since this work was to include a detailed analysis of the management plans and concepts of the national parks studied, this had to be taken into account in the choice of methods. Consequently, it was necessary to place the national park administrations at the center of the study because they have a decisive influence on developments in the study area. According to REUBER & PFAFFENBACH (2005), qualitative methods are particularly suitable for meeting these requirements, as they enable a differentiated investigation of individual cases.

Expert interviews are a method from empirical social research that provides qualitative data. It serves to "*share exclusive expert knowledge*" (BOGNER ET AL., 2005). The focus is on the perspectives and actions of the experts rather than the interviewee as an

individual (FLICK, 2016). From various methods of qualitative data collection, the problem-centered interview was chosen. The term "problem-centered interview" was introduced by WITZEL, (1985) and describes a form of open, semi-structured questioning (MAYRING, 2002). The interviewed experts can speak freely in a conversation that is as open as possible, but the interview still remains centered on a specific problem. This form of qualitative interview has the advantage that the interview partners can reveal their subjective perspectives and interpretations and, optimally, a discussion of the topic is achieved (MAYRING, 2002). In the present study, the expert interviews were conducted as guideline-based interviews. In addition to the guideline-based expert interviews, data was also generated with the help of a questionnaire.

For various reasons, some of the expert interviews were conducted in a written form. The guide used for the written interviews, in this case a questionnaire, is based on the guide used for the oral expert interviews but has been reduced in length and the questions were adapted to the target group (cf. Appendix 2). The deviation from the form of conducting the guideline-based interviews has two main reasons: Firstly, this form of data collection facilitates time management for the experts, as well as for the interviewer, since filling out the questionnaire takes less time and discrepancies in scheduling can be avoided. In addition, answers are also obtained from experts who were not able to participate in an oral interview. However, this modified form of data collection has no influence on the significance of the data since the many advantages of an expert questionnaire could be used and advantages of the problem-centered interview still apply. Compared to the oral questionnaire, the written questionnaire has the advantage that the interviewer is no longer a source of error. HABERMEHL (1992) justifies this advantage in the fact that interviewers tend to skip delicate questions in an uncontrolled manner. BARTH (1992) names as further advantages better thought-out answers, more honest statements through greater anonymity and faster execution compared to oral interviews. Furthermore, it is easier to interview geographically dispersed persons and the questions can be better thought through by the respondents because more time is available for answering them.

5.3 Design of the Interview Guidelines

Due to the special importance of the guideline in the context of expert interviews (MAYER, 2013), this subchapter deals with the preparation of the guideline questionnaires as well as describing their importance in more detail within the context of this study. The guideline is a pre-agreed and systematically applied specification for the

design of the interview process. It has an important control function in the course of the interview and should also clearly indicate that the interviewer is familiar with the topic (MAYER, 2013). The structure of the guide can vary greatly, but according to HELFFERICH (2014) it should contain narrative prompts, explicitly pre-formulated questions, keywords for freely formulated questions and arrangements for handling dialogue interaction at specific stages of the interview. As specified by HELFFERICH (2014) the creation of a guide should follow the principle of "*as open as possible, as structuring as necessary*", this means that for most questions and research interests, it is necessary to control the interview process to a certain extent while maintaining basic openness. The basis for the creation of the two different guidelines used in this work was the document analysis and the identification of relevant aspects to answer the research questions. Thereby, it was indispensable to take into account the regional and national conditions, as the national parks were influenced by the initial conditions in the context of their previous development and also future development perspectives will be directly or indirectly affected by this.

As mentioned above, two different guidelines were prepared: one for the National Park Administration and one for the districts directly bordering the national park. However, the structure of these guideline questionnaires follows a common pattern. The different interrelated topics were grouped into conversation blocks (REUBER & PFAFFENBACH, 2005) in order to allow an approximation of a natural conversation process or to ensure a structured answering of the questions in case of a written answer. According to GLÄSER & LAUDEL (2010) this division of the interview guide into topic blocks increases the memory of the interview partners, so that the information content of the statements can increase. In addition, this procedure ensures that all interview partners are asked the same questions, which is particularly important in a comparative study. These interview blocks also served to simplify and speed up data analysis. This is because the guide can also take on a special function within the framework of data evaluation. By orienting the course of the interviews according to a uniform pattern, comparability of the data is made possible (REUBER & PFAFFENBACH, 2005).

At the beginning of the guideline, the interview partners were first asked to briefly introduce themselves and their backgrounds, as well as what exactly their responsibilities are. On the one hand, this served to classify the experts precisely, but above all to relieve the tension before the partly unfamiliar interview situation. In the subsequent

topic complexes, the guideline questionnaires differed slightly according to the institution concerned.

The first guideline, which deals with the national park administrations (cf. Appendix 1), comprises a total of 20 different questions on four different topic complexes. In addition, various sub-questions were prepared for some questions in order to gain access to more in-depth information and to enable the interviews to flow as smoothly as possible. The first set of topics deals with the background of the respective national park, while the second set of topics deals with the background of tourism in the national park. In the following, questions are asked about the supposed contradiction between nature conservation and tourism. The last topic is divided into three sub-topics (management plan, zoning and visitor strategy) to cover the possibilities and scope of the different management instruments. At the end of each guideline and thus of each interview, a question was introduced to enable the interviewee to bring up topics that had not yet been addressed but were important to them.

The second guideline (cf. Appendix 2) was designed from the outset as a questionnaire and comprises a total of 12 questions. This questionnaire is addressed to the municipalities/districts that border the respective national parks and thus have a direct relationship to them. At the beginning of the questionnaire there is an information box. Here, on the one hand, the personal data of the respondents are requested in order to enable possible queries. On the other hand, information is provided about the topic and the background of the questionnaire. In addition, brief information is provided on data protection and the handling of personal data. In the sequence of the questions, an attempt was made to achieve good comprehensibility through a common thread. The questions were divided into four different thematic blocks during the evaluation and can be found in the chapter on results (cf. Cap. 6).

5.4 Selection of Interview Partners and Interview Procedure

The selection of interview partners was based on the research questions and the objective of this work (BOGNER ET AL., 2005). Accordingly, interview partners from two different stakeholder groups were interviewed (national park administration and adjacent national park district). Furthermore, it was planned to interview the National Park Board as a third stakeholder. Unfortunately, due to a lack of response and the time frame of the study, the Board could not be included in the work frame. In this study, the interviews and questionnaires with the interview partners were conducted in such a way that their function as individual stakeholders in the study area and their position

as experts for their respective stakeholder group is established. In order to facilitate the evaluation of the interviews or questionnaires and especially the comparability, the interview guideline was followed quite strictly (REUBER & PFAFFENBACH, 2005). However, the selection of questions was always context-dependent and adapted to the course of the conversation, so that the order of questions could vary in individual cases. The interviews and questionnaires were anonymized and given an identification number to protect the interview partners (e.g., ID 02 for interview partner 2). An overview with further details on the identification numbers can be found in Table 4.

Table 4: Overview of the interviews conducted.

Organization	Type	ID	Interview Duration
Ytre Hvaler National Park Administration	oral	ID01	0:29 h
Raet National Park Administration	oral	ID02	1:20 h
Wadden Sea National Park Administration	oral	ID03	0:44 h
Tvedestrand County (Raet National Park)	written	ID05	-
Nordfriesland District (Wadden Sea National Park)	written	ID06	-

The interviews with an oral response were recorded in order to be able to concentrate fully on the interview and to simplify the interview evaluation. Subsequently, the recordings were transcribed. The corresponding audio files and transcripts can be found in the relevant folder on the DVD in Appendix 3. Before the interviews began, the intention of the research project was explained in more detail to the interviewees. For this purpose, the field of tension and the associated discussion between nature conservation and tourism in coastal national parks was first briefly discussed. Furthermore, the fact that the structures of the relatively young Norwegian national parks were compared with those of the much older Wadden Sea National Park in Germany, was pointed out. Besides, the interview partners were given the opportunity to ask questions in advance. The interview partners were also made aware of their function as experts before the interview began.

As already mentioned, the interviews with the questionnaire were conducted in writing. For this purpose, the questionnaire was sent via email to the appropriate employees of the respective districts. The answers were either entered directly into the questionnaire (handwritten or digitally) or were first answered in an email and then

subsequently transferred into the questionnaire. The answered questionnaires can be found in the corresponding folder on the DVD (cf. Appendix 3).

5.5 Data Analysis and Evaluation

The transcription of the interviews was first carried out with the help of "Amberscript" transcription software. "Amberscript" is a company based in Amsterdam and Berlin that offers software to automatically convert audio and video files into text using speech recognition. The automatic transcripts were then edited to correct mistakes in the transcription and to adapt the speech and colloquial expressions to the script. It was decided to present the results in tabular form, as this allows for a better overview and comparability. Therefore, two different matrices were created for the results section. The most important statements of the experts of the national park administrations can be found in Tab 5. The results of the questionnaires answered by the municipalities/counties can be seen in Table 6.

Summarizing the statements of the interview partners is associated with a loss of information. In order to achieve a balance between condensing information and authenticity, an attempt was made to integrate the phrases of the interviews into the results matrix. In the further presentation of results, the individual categories of these matrices were used for the different stakeholder groups and evaluated according to the research questions. Due to the small number of interview partners, the nature of the data collected and the fact that not every expert was able to answer all questions, no quantitative evaluation is possible. It should therefore also be noted that the non-mentioning of an expert does not necessarily mean that he does not hold a certain opinion. Rather, it may mean that he could not answer the corresponding question due to his field of expertise.

6 Results

The following chapter lists the collected results of the interviews and questionnaires. In order to achieve the highest possible comparability of the results and to minimize the loss of information, the different interview groups were combined in two different results matrices. This way, the answers of the individual respondents can be presented in detail. The first matrix (cf. Tab. 5) contains the results of the interviews with the National Park Authorities of Ytre Hvaler, Raet and Wadden Sea National Park. The different statements on the respective topics are listed next to each other. If a field is not filled in, then this question was either not asked in the interview or could not be

answered. In column 1, the various superordinate thematic complexes are listed. Here, a division was made into four different thematic complexes. The first set of topics deals with background information on the respective national parks. The second set of topics contains background information on tourism in relation to the national parks. The third topic deals with the fundamental contradiction between nature conservation/national parks and tourism. The last topic is further subdivided into a-c. While general information on the scope of management instruments was first requested, the sub-items a-c deal with individual specific instruments. These are (a) the management plan, (b) zoning and (c) the visitor strategy. The second column gives an overview of the questions asked in a short form. The other three columns contain the summarized answers of the respective National Park Authorities (from left to right: Ytre Hvaler, Raet and Wadden Sea National Park Authorities). Important contents were taken up in the discussion and marked with the corresponding ID.

The second matrix (cf. Tab. 6) contains the results of the questionnaires sent to the districts bordering the national parks and follows the example of the first matrix in its presentation. As in the first results matrix, the most important statements on the questionnaire items are listed side by side. In this way, the different opinions, statements and facts can be compared easily and clearly. In contrast to the first survey of interviews with the national park administrations, in this case questionnaires were sent out, which were answered in writing. In the evaluation of the questionnaires, a division was also made into 4 different subject areas, which do not correspond to the order of the questions on the questionnaire. The 4 subject areas are district & national park, national park vs. nature conservation, tourism and coastal national parks.

The aim was to interview at least one neighboring municipality for each of the national parks investigated. This could not be achieved despite various requests and enquiries, with the result that the corresponding column of the results matrix could not be filled in. Due to the similarity of the two Norwegian national parks and their conditions, a sufficient evaluation and interpretation could nevertheless be carried out.

Table 5: Results matrix of the interviews with the national park authorities of Ytre Hvaler, Raet and Wadden Sea National Park.

Sub. area	Question	ID01 – Ytre Hvaler National Park	ID02 – Raet National Park	ID03 – Wadden Sea National Park
Subject Area 1: Background Information on National Park	Processes to establish the national park	• First mentioned in a NOU in 1986 • Process was started at the county governor of Østfold in 2001 • Started to cooperate with municipalities and administration to get local people involved e.g., farmers and fishermen	• 2013: Head of County proposes national park • 2016: Finished national park plan presented to Department of Environmental and Climate Issues • 16 December 2016: draft approved and Raet National Park designated • Norway's best documented draft for a national park	• The establishment of the park in 1985 was a legislative project. • The national park begins at the mean high tide line or 150 meters seaward of the dyke, in order to avoid protracted discussions or controversies. • The islands are also not part of the national park, which has facilitated difficulties in designation.
	Special challenges compared to inland national parks	• The challenges of coastal national parks are of course different (fishing, boating, kayaking), but the pressure is not necessarily higher. • There are many cottages in Hvaler (4,800) and just as many in Fredrikstad, which means many visitors in summer.	• Coastline has always been a holiday area, that's why many visitors come (1.4 million) • Many tourists visit the coastline but are not even aware that it is a national park. • Many cottages in the coastal area (150 even in the national park)	• Coastal national parks are larger in size because they are exposed to fewer competing uses than inland parks. • The controllability of the regulations in force is much more difficult and a great challenge.
Subject Area 2: Background Information on Tourism	National park in catchment area: Advantage or disadvantage	• Higher pressure for nature, because more people living nearby • Very easy to reach by boat, by car, by bus or by train • From an economic point of view, good for the municipality of Hvaler and Fredrikstad	• It is both an advantage and a disadvantage • Many tourists are good for the local economy, but there are also counterproductive tourism industries (water scooters, cruise guests). • Cooperation with partnership program important to ensure protection of nature.	• If the national park is strongly perceived, there is a certain sensitivity. • A disadvantage is that large numbers of visitors come, which leads to disturbances. • Only a few areas of the park can be accessed, so there is no area-decreasing tourist use. • There are, uses by shipping and fishing.
	Greatest potentials for conflicts between tourism & nature conservation	• Not all people always respect zones which are not allowed to go into during the day or 15th of April until 15th of July • More Boats during summer pressure on Seals and Seabird areas • trend is that its more crowded and More Hiking (with tents) leads to more pressure on rare species and plants	• One problem is the freedom to Roam There are areas with temporary access prohibitions, but apart from that, the Everyman's Right applies. Associated freedoms limit the scope for action. • And there is an increasingly high number of private boats • Norwegian mountain national parks have a larger and more diverse team	• People want to go where it looks most undisturbed, but that is exactly where nature is most vulnerable, and disturbances are strongest. • There is a potential for conflict: the more tourists there are, i.e., the greater the use, the more management and control measures have to be taken.
	Specific strategy for sustainable tourism?	• A specific strategy for sustainable tourism in the national park should have been finished in 2020 but is still under construction.	• No strategy for sustainable tourism, but a strategy for visitor management. Efforts are being made to promote sustainable tourism.	• There is an especially for the national park developed strategy for sustainable tourism. The strategy was developed by the authorities and the national park partners and has not been fully adopted by every tourism organization.
Subject Area 3: Tourism vs. National Parks	Tourism and nature conservation fundamentally opposed?	• To take care of nature, you have to love nature and to love nature, you have to let people be in nature. This is not so easy to reconcile and that is why plans are important where people can be without destroying nature.	• Both: Tourists who are aware of their surroundings do little harm to the national park. But especially illegal long-term camping and anchoring in the national park area are a problem.	• Nature conservation benefits from having an influx of visitors, who are sensitized to nature conservation and the values of the national park. • Every tourist wants to relax during his holiday, especially in remote areas or feel alone (especially when from urban areas like Hamburg) • Sensible zoning and visitor guidance is important

Subject Area 3: Tourism vs. National Parks	Most serious threats from external or environmental influences?	----------	----------	• Most serious threats are generally a high degree of uncertainty in the face of climate change: particularly sensible areas will suffer considerable disadvantages. • Shipping, fishing and tourist recreational use also cause disturbances and impairments. • Individual impacts are disruptive, but climate change and pollution are biggest threats
Subject Area 4: Capacity and Scope of Management Tools	Which management method was chosen?	• We tried to do adaptive management because when we established the national park, we worked with Kosterhavet National Park and they decided to do adaptive management. • As the national park borders Kosterhavet it is good to have the same strategies for the marine areas.	• Knowledge-based management in the park: to consider all aspects of nature and nature's values when making decisions. • Adaptive management is desired by the national park administration but cannot be implemented at present, because temporary access bans are difficult to communicate with the public and due to small staff to handle the implementation.	• Different management methods are used: The main goal is "to let nature be nature. • Sensitive areas in protection zone 1 are closed to use (no-entry zones). • Special seal sanctuaries and bird sanctuaries with special regulations for shipping. • In tourist hotspots and the salt marsh there are flexible temporary (breeding) zones (adaptive).
	Importance of management instruments?	• The management instruments are very important • The national park involves many users of the park, farmers, fishermen, botanists, different groups to get to know what is important for us to have plans for management	• Norwegian national parks are mainly protected from further development and infrastructure. • Few management tools to protect biodiversity and populations. • No protection of the seabed, marine population from recreational or industrial fishing, no hunting regulations. • The freedom to roam restricts management tools	• Management institutions are indispensable in order to do justice to tourism and nature conservation in equal measure. • Especially in places with high visitor pressure many measures are needed to ensure that people and nature get their rightful due. • This requires the cooperation of all players and the sensitization of the population.
Subject Area 4a: Management Plan	Management plan contain a clearly formulated vision for the future?	• The management plan contains a clearly formulated visions for the future • Different goals are set for different types of areas and species • A difficulty is that there are not the resources to look into every goal.	• The first management plan is a temporary document, as it was required by law in order to designate the national park. • Besides infrastructural issues, the plan also includes management of the natural sights, the cultural landscape and also detailed information on measures. • In cooperation with experts, the management plan is to be expanded and revised to include, e.g., a tourism strategy & sensitive park area	• The Trilateral Wadden Sea Plan mainly contains overarching themes (conservation of habitats, etc.), no clearly defined objectives. • In principle, §2 "Let nature be nature" applies. • In addition, concepts such as the foreshore management and the seal management plan with associated details. • A "Single Integrated Management Plan" is currently being developed by CWSS to combine individual concepts into one management plan.
	Conflicts with objectives of other (management) plans?	• There are not many conflicts between the management plan and other plans. • Management plan is the head of all plans and e.g., the visitor plan must follow it • Possible conflicts may arise with plans of the municipality, administration has no influence on this	• Conflicts always arise when there are different interests, but good dialogue is used to minimize the conflicts. •	• Management means change as well, so there can always be conflicts of objectives with other management plans. • Good coordination between different disciplines e.g., that botanists and ornithologists work together on the foreshore management concept in order to defuse conflicts.

	Serious differences in the management plans?	• The Norwegian national park system is designed for mountain national parks • As the first coastal national park, Ytre Hvaler had to go its own way • In the meantime, there have been changes in the system that make it easier for coastal national parks than it was in the beginning.	• Coastal national parks are very often close to cities and densely populated areas, so there will be significant differences in management plans. • Already designated coastal national parks allow orientation.	• Principle of the national parks in Germany is comparable in all of them • Wadden Sea national park is much larger, could reflect in the management plans.
Subject Area 4b: Zoning	Zero use zone?	• There is no Zero use Zone all year around, but some periods of the year. • During the period when it's not allowed to enter there are some controls.	• No zero-use zone, but areas that are temporarily off limits • There are few controls: made difficult by too few staff and the Everyman's Right.	• There is a multi-zone system, including a zero-use zone (125 km^2). • Controls are made possible by evaluating fisheries data and partly by the water police.
	IUCN Guidelines for zoning	• Currently the IUCN guidelines for zoning are not fulfilled.	• Currently the IUCN guidelines for zoning are not fulfilled. • Zoning should be improved in cooperation with the municipality and the local population.	• The zoning is designed according to the IUCN guidelines in nature zone, development zone and recreation zone in the peripheral area.
	More specific measures through zoning?	• Zoning is important and does help to create more specific measures • Zoning is a good way to regulate the area for visitors, because it is an increasing problem • More Zoning would be necessary in the Future, especially where birds should not be hunted	• Zoning is very important for nature conservation and there should be more marine protection zones (currently 2). • Local people also want better zoning and therefore fewer visitors.	• Important natural assets, breeding colonies, seal resting places, salt marsh areas etc. were put in protection zone 1 to reduce access. • Zoning in this sense serves to further develop nature conservation and to show clear limits to tourism.
Subject Area 4c: Visitor Stagey	Spatial visitor guidance concept?	• There is a spatial visitor management concept, the future visitor strategy will also show this • Visitor facilities are located outside the park and only educational facilities are located inside the park, but in areas that do not suffer so much from high visitor numbers (regulated tent areas). • Spatial planning is being considered to have different areas outside where many people do not have such a big impact on nature.	• There is a space-based visitor guidance concept: 15 entrances with parking spaces so that visitors enter the park via marked paths. • The paths are prepared and signposted • There are special floating moorings for boats to protect the seabed from anchoring.	• The spatial visitor concept consists of various regulations: 1,000-metre regulation, zoning system, regulations on protected goods for tourist use, contracts for special use at tourist hotspots. • In addition, there is a visitor information system with almost 800 elements (information boards, nature information, signposting).
	Easily accessible by public transport & individual traffic?	• Several islands connected by roads and bridges. • Buses stop only in the larger towns and leave once an hour. • One island in the park can be reached by ferry • Easy to get to by car, there are extra parking lots for the visitors • Many people come individually by boat.	• There are 15 entry points to the park along the long coastline. • The park is accessible by car, boat, ferry and bus and entrance points provide information boards. • There are tourist counter stations at some hotspots and fireplaces are provided to reduce the number of random fireplaces in the park. • Many people come individually by boat.	• The national park areas are easily accessible by public transport, various towns and numerous car parks are located along the 400 km dyke line. • Drive into Park only at 2 places possible and only partially accessible by public transport. • The national park administration is basically trying to keep individual traffic out of the national park.

Table 6: Results matrix of the questionnaires of the bordering counties Tvedestrand (Raet) and Nordfriesland (Wadden Sea).

Sub. area	Question	ID04 – Fredrikstad/Hvaler County	ID05 – Tvedestrand County	ID06 – Nordfriesland District
Subject Area 1: County & National Park	Establishment of the national park: advantage or disadvantage	----------	• Advantage: It is good for tourism and strengthen the work in the region for sustainable use of the area • There are no big disadvantages in Tvedestrand because the area of Raet in our commune lies in the outer skerries where it is no buildings or infrastructure that causes conflicts	• Advantage: It not only promotes the protection of the special fauna and flora but also has a positive effect on the tourism sector, which plays a central role alongside agriculture. • National park attracts visitors and promotes local economy
	Image of the commune influenced by the national park	----------	• Yes, the Image of the district is influenced by the national park • For us it is good to have a national park because it is a documentation of good qualities in the commune	• Yes, the Image of the district is influenced by the national park • The national park designation contributes to a "green" image of the district. Higher national importance, as only two counties border on this national park
	To what extent is the district involved in decisions concerning the national park?	----------	• Both in the board and in the administration, we have good dialogue	• Participation takes place via the National Park Board • The district administrator is the chairman and political representatives are also members. • The board of trustees is involved in decisions affecting the national park.
	Rate cooperation with national park administration	----------	• The cooperation was rated "very good". • We are lucky to have a very good administration in the national park	• The cooperation was rated "very good". • There is a close collegial exchange between the authorities.
	Participation of the district in management plans	----------	• If we want influence on a case, we have very good cooperation	• The management plan has been discussed in the National Park Board and the district can exert a lot of influence on it
Subject Area 2: Tourism vs. National Parks	Tourism and nature conservation fundamentally opposed?	----------	• In this part of the national park, I don't see any big conflicts between national park and tourism.	• No, nature-compatible tourism is necessary, but with visitor guidance. • The aim should be to convey to tourists the worthiness of protecting nature. For understanding, experiencing nature must be possible to a certain extent.

Sub. area	Question	ID04 – Fredrikstad/Hvaler County	ID05 – Tvedestrand County	ID06 – Nordfriesland District
	Greatest potentials for conflicts between tourism & nature conservation	----------	• If it is to many users of the park, we may destroy some of the qualities in the park. In our commune we don't see this as a big problem now.	• Tourist numbers are too high in some places and this has a negative impact on nature and species conservation (e.g., land consumption for car parks, disturbance of quiet zones, etc.). • Disregard of laws and regulations (e.g., prohibition to enter, leash restrictions for dogs, drone recordings in the nature reserve).
Subject Area 3: Background Information on Tourism	Specific strategy for sustainable tourism?	----------	• No, we don't have a specific strategy for sustainable tourism in the municipality of Tvedestrand	• The business development agency and the national park administration are committed to sustainable tourism and arrange appropriate offers for accommodation, travel and activities.
	National park in catchment area: Advantage or disadvantage	----------	• In the summer we are more people than in the rest of the year. Still, we have plenty of space, and we don't see many problems related to this situation	• The challenge is that many day tourists come to the district and often arrive by car. Although this positively promotes the local economy, it also leads to problems at hotspots (e.g., Sankt Peter-Ording, Sylt) in terms of high demand for parking spaces or long waiting times for car trains.
	Biggest challenges for the future?	----------	• Avoid too many buildings and boat docks along the sea	• Ensuring that tourism is compatible with nature: • Conservation of nature + species protection through visitor guidance • Development of sustainable mobility concepts • Promotion of sustainable accommodation (no hotel complex landscapes)
Subject Area 4: Coastal National Parks	IKCM	----------	• No information could be provided on this	• Integrated coastal zone management is an important tool for planning coastal national parks.
	Special challenges compared to inland national parks	----------	• Not specified. I don't think there are many different problems.	• Water is an open system that, unlike terrestrial habitats, is more difficult to delineate and contains many mobile animals • Control of processes is more difficult due to the distance from land. • In addition, influences from neighboring countries on the system can pose major challenges.

7 Discussion

Particularly large, protected areas such as national parks are exposed to a field of tension between various factors that influence and cause each other. According to REVERMANN & PETERMANN (2002), the most important influencing factors include the regional economy, visitors, the environment and the tourism. In particular, the areas of nature conservation and tourism are often contradictory, but can nevertheless stimulate a positive, self-reinforcing cycle. Here, the primary risk lies in the disproportionate use of natural landscapes, which leads to the endangerment of their own foundation. Basically, tourism, due to its impact on natural and cultural landscapes, is a potential cause of adverse impacts. These include, among others, the increased consumption of resources and the pursuit of certain tourism activities, such as the expansion of infrastructure. It should be noted that conflicts of use between tourism and nature conservation usually arise in the case of increased tourism and through non-observance of the applicable regulations and rules. The national parks studied in this thesis are all three considered particularly popular coastal holiday and excursion destinations. In addition, the coastal national parks experience visitor pressure from land and sea. The fact that the majority of the national parks are located in water results in a very wide and open character. This makes it particularly difficult to monitor compliance with the applicable rules and regulations. In Norway in particular, the public right to roam the countryside (*allemannsretten*) is also a factor that can complicate the work of national park administrations (cf. Chap.7.1.3). One problem that no national park is immune to, but which plays a special role in coastal national parks, is climate change. This threat is linked to a high degree of uncertainty and leads to considerable disadvantages for sensitive areas of the park and can nevertheless also have a strong impact on the regional tourism industry. Probably the most important role in the attempt to reconcile the steadily increasing numbers of tourists with nature conservation in coastal national parks is played by management instruments such as management plans, as well as the associated visitor strategies and zoning concepts. However, it must be made clear from the outset that a management plan alone may not be sufficient to ensure the best possible conservation status of the areas. Rather, the overarching goals at the biogeographical level must be taken into account, as well as good cooperation with other specialized planning tools in a network and a specially adapted visitor strategy.

The problems and challenges briefly outlined here represent only a part of the challenges for coastal national parks and illustrate the importance of good cooperation

between all stakeholders involved. With regard to the administration and management of national parks, there are similarities and differences between Norway and Germany. This chapter summarizes the core themes of the findings and highlights those that are relevant to the research question and the management of Ytre Hvaler, Raet and Wadden Sea National Park. The next step is to discuss whether the techniques and management approaches used in the Wadden Sea National Park are transferable between the two countries, despite contextual and institutional differences. Concluding remarks and a conclusion are given at the end, together with suggestion for further research.

7.1 Differences and Similarities between the Areas of Investigation

In the following chapter, the differences and similarities of the coastal national parks discussed in this thesis will also be compared between Norway and Germany. First, the national park history and the national park system of Norway and Germany in general are compared and discussed. This is followed by a closer look at the management instruments of the coastal national parks dealt with in this paper, as well as the special feature of the public right to roam the countryside. Furthermore, an in-depth look at tourism is taken before the selection of methods is discussed and possible research to be supplemented is reviewed.

7.1.1 The National Park System

There are many parallels between the development of the national park systems in Norway and Germany, which are described below. However, there are also some differences that may be important for the development of the coastal national parks studied in this thesis. For example, the first discussions about protected areas began in both Norway and Germany at the end of the 19th century. The founding of the first national park is also only 8 years apart. The subsequent course of events differs markedly. While Norway had already designated 21 national parks by 1990, Germany had 9. It is worth noting that between 1985 and 1990 all five of Germany's coastal national parks were designated. In Norway there have been discussions about the designation of coastal national parks since 1986, but they were not designated until 2009 (with the exception of the national parks on Svalbard[4]). Today, the total national park area of all parks in Norway is 31,047 km^2 (excluding Svalbard) and in Germany 10,504 km^2, with a very similar total land area. In Germany, marine areas alone account for over 80% of the total national park area.

[4] There are a total of 7 coastal national parks on Svalbard. These are not subject to Norway's National Park Plan and Nature Conservation Act, but regulated by the Svalbard Environmental Protection Act.

In principle, national parks are anchored in the nature conservation laws of both countries, and the country-specific definitions of national parks are also very similar. In both nature conservation laws, it is embedded to protect large undisturbed natural landscapes, as well as to promote natural processes and wilderness, and at the same time to create a space for recreation and outdoor life. Another common feature is that both countries have developed an umbrella brand under which the national parks are grouped. This umbrella brand offers the possibility of a uniform development image, common communication channels and a recognition value. In addition, a management plan has been developed for all national parks in both Norway and Germany, although only the Norwegian Nature Conservation Act explicitly requires this.

Differences between the national park systems are particularly apparent in the forms of use that are allowed to take place in the parks despite the national park congestion. This is also related to the amendment of the Nature Conservation Act in Norway in 2009. Since then, a new approach has been taken which states *„[...] protect biological, geological and landscape diversity and ecological processes through conservation and sustainable use" (*NATURE DIVERSITY ACT, 2009). It is clear that nature conservation can only work if people can experience nature and recognize its value. At the same time, a management strategy that restricts the use and behavior of visitors off the trail is important and should include information on the vulnerability of the ecosystem. In principle, the approach of protecting the national parks through sustainable use is a good idea. However, it is important to consider which types of use remain permitted (cf. chap. 7.2), especially in the context of the ever-increasing number of visitors at the national parks. Factors such as visitor management and zoning play a major role here. In Norwegian national parks, there are areas where fishing and certain fishing methods are not allowed, yet commercial fishing is permitted. In contrast in the Wadden Sea National Park there is strict zoning into a core zone and a buffer zone, including a zero-use zone. In the Norwegian national parks, however, this zoning is less strict, and a no-use zone is not provided at all. A clear distinctive feature of the Norwegian national parks is the public right to roam the countryside, because it also applies in the parks. This can complicate the work of the national park administration. Another major difference is that the Norwegian national park system was designed from the beginning primarily for mountain national parks (ID 01). In Norway, these are mostly areas that had few conflicts of use due to their geographical location on the periphery. Coastal national parks on the other hand, are often located close to cities and densely populated areas (ID 02). This leads to difficulties in designation by the

local population due to acceptance problems and economic conflicts of interest, e.g., with the fishing industry and certain forms of tourism industry (cf. chapter 7.2). As the first coastal national park, Ytre Hvaler had to find its own way (ID 01) and can therefore be seen as a kind of blueprint for the following coastal national parks and help with orientation (ID 02). In the meantime, there have been changes in Norway's national park system that simplify the work of coastal national parks (ID 01). The establishment of the Wadden Sea National Park in Germany shows that the main difficulties in designating coastal national parks cannot be attributed to Norway's national park system alone, but that there are many other influencing factors. Here, attempts to protect the unique natural space on the North Sea coast began as early as 1962, but were not successful until 1985. In all three of the national parks examined here, it was the political will to designate the park and not an initiative from the local population. This led to strong protests from the local population and fishermen, especially when the German National Park was designated. Today, however, the situation is different. The districts and municipalities bordering the national parks see the national parks as a great advantage. On the one hand, the designation of the national parks has led to a better and "greener" image (ID 06). However, much more important for the municipalities is the positive effect on the tourism sector (ID 05) and the local economy (ID 06).

7.1.2 Management Instruments

In the following, the management instruments (management plan, zoning and visitor strategy) of the Norwegian and German coastal national parks addressed in this paper are compared and discussed. Further reference is made to the Integrated Coastal Zone Management (ICZM).

Management Plan

The management plans seem to be the most important instrument for the national park administrations. It should be noted that all three national parks studied here have a management plan. In Norway, the Nature Conservation Act explicitly requires every national park to have a management plan. In Germany, on the other hand, this is not a legal requirement, but management plans have now been adopted for all national parks in Germany. Due to a similar geographical situation and legal requirements, the management plans of the two Norwegian national parks studied are very similar. The German Wadden Sea National Park, however, is a special case as it does not have its own management plan. Instead, the trilateral Wadden Sea Plan (WSP), a joint planning

basis with Denmark and the Netherlands, has been valid since 1997 and was updated in 2010. The WSP contains mainly overarching themes (e.g., maintenance of good conservation status, etc.) and no clearly defined objectives or tasks (ID 03). Furthermore, the WSP is not legally binding in all three Wadden Sea National Parks but has a high degree of political commitment. In addition, further detailed management plans exist for the Schleswig-Holstein Wadden Sea National Park. These are relevant targets and priorities set by detailed sectoral management plans for individual themes, ecosystems or regions. However, an examination of these management plans by the National Natural Landscapes revealed that these plans also need to be fleshed out (EUROPARC DEUTSCHLAND E. V. (ED.), 2013). A closer look at the management plans of Ytre Hvaler and Raet National Parks revealed that both plans focus on infrastructural issues (ID 01 & ID 02). In addition to infrastructural concerns, the plans also cover the management of natural sights, cultural landscape and, to a lesser extent, detailed information on measures (ID 02). However, one of the most serious differences between the Norwegian and the German national parks is not the content of the management plans, but the resources of the national park administrations. While the Wadden Sea National Park has a large number of employees in the national park administration, the Norwegian parks each have only one person directly employed in the national park (national park manager). It should also be mentioned that there is support from the Norwegian Environmental Protection Agency (SNO) to fulfil the management tasks. Here, an exchange with external experts can also be an advantage. The number of staff in the national park administration is of course also justified by the size of the park. With its 4,410 km^2, the Wadden Sea National Park is 7 times larger than the Raet National Park (607 km^2) and almost 13 times larger than the Ytre Hvaler National Park (354 km^2). These differences in size may also have an impact on management planning (ID 03). Despite this, in view of the ever-increasing number of tourists, it would be advisable to expand the capacities of the national park administration in order to enable targeted and effective management in the future.

Zoning

Zoning primarily serves to further develop nature conservation and to set clear boundaries for tourism (ID 03). Zoning thus offers a good way to regulate the area for visitors and helps to create specific measures (ID 01) to better combine tourism and nature conservation in national parks. At the same time, the biggest differences between Norway and Germany or between the national parks studied here are to be found in the zoning. The biggest difference is that the entire area of the Wadden Sea National Park

belongs to one of the two protection zones agreed upon in the park. Divided into a core zone (1,570 km^2) and a buffer zone (2,840 km^2), the two zones cover the entire national park with its size of 4,410 km^2. In the Norwegian coastal national parks, there is a different zoning concept. Although there are different zones here, they are not divided into core zone and recreation zone. In Raet National Park, 60.44 km^2 of the total 607 km^2 fall into one of the protected zones (A-C). In Ytre Hvaler National Park, there are protection zones (A-E). In this context, it is worth noting that Zone A has been reduced from the original proposal of 36.29 km^2 to 33.81 km^2.This clearly shows that the German national park has tried to follow the IUCN guidelines on zoning, according to which national parks should be clearly divided into a core, development, and recreation zone. The Wadden Sea National Park has a core zone and a development zone, which serves as a buffer around the core zone. The recreation zone is integrated into this development zone. In the two Norwegian coastal national parks Ytre Hvaler and Raet, the IUCN guidelines for zoning have not yet been met (ID 01 & ID 02). Although there are different protection zones here as well, with the different zones each taking on different nature conservation tasks, their scope is much smaller.

It should also be noted that there is a 125 km^2 zero-use zone in the Wadden Sea National Park. This zone is left to itself and closed to the public. The advantages of such a zero-use zone are that the ecosystems located there can develop completely undisturbed and provide a refuge for various animal species. Moreover, they can be used as reference areas for monitoring and scientific research. Such a zone does not exist in this form in the Norwegian national parks. Nevertheless, both national parks have temporary zones where access is temporarily prohibited (ID 01 & ID 02). This means that certain areas are closed to the public during the breeding period of various bird species. A major problem here, however, is controllability. Compliance with the regulations is monitored, but it is difficult to ensure due to a lack of staff and the general right of everyman to visit. This makes a good visitor strategy, with a guidance system for visitors, particularly important. In the Wadden Sea National Park controls are also made possible through the analysis of fisheries data, and partly through the support and cooperation of the water police (ID 03). However, the open character of coastal national parks, as well as the associated size of the parks, makes effective controls on compliance with the applicable rules and regulations very difficult. This shows that a well-developed visitor strategy can contribute significantly to the success of zoning compliance.

Visitor Management

In order to link tourism and nature conservation in coastal national parks, appropriate visitor management is of great importance. It can be divided into direct and indirect measures. In direct management measures, behavior is regulated by individual restrictions. Controls must be carried out on visitors. Indirect management measures attempt to influence or modify behavior by influencing visitors' decisions through information and education (MASON, 2005). Therefore, visitor management includes a visitor strategy, spatial visitor guidance systems and visitor information systems (BIS).

First of all, it should be noted that all of the national parks studied are concerned with visitor management measures, which is also necessary due to the ever-increasing numbers of visitors, especially in coastal national parks. In Norway, it was also decided that every national park must develop a visitor strategy by 2020 (EIDE ET AL., 2018). This is a meaningful measure to reconcile people's growing enthusiasm for national parks with nature conservation. Despite this, Ytre Hvaler National Park does not yet have a visitor strategy. Nevertheless, this does not mean that no measures have been taken to guide visitors, and in 2021 the official strategy will be published or adopted. Ytre Hvaler National Park already has a spatial visitor guidance concept (ID 01). Raet National Park has already published its visitor strategy in 2019 including an additional associated special visitor guidance concept (ID 02). The Wadden Sea National Park also has a visitor strategy and has taken various measures for a spatial visitor guidance concept.

These concepts include that visitor facilities are located outside the national park and only educational facilities are located inside the national park (ID 01 & ID 02). Furthermore, the Raet National Park has designated 15 entrances to the national park. At these entrances are parking spaces, rubbish bins, and information about the park and the rules that apply there is provided (ID 02). From the entrances, designated hiking trails lead into/through the park. This is to ensure that most visitors only follow the designated paths through the national park. The geographic differences between the national parks are noticeable here. As the Wadden Sea National Park has a 400 km coastline, it is not possible to reduce the access of the park to a certain number of entrances (ID 03). However, as the national park starts on the seaward side of the dyke, access is also partially restricted here. Along the dyke line, especially near tourist sites, car parks have been built to provide information about the national park and to concentrate access to the park. In addition, the visitor information system includes almost

800 elements (information boards, nature information, trail markings) to make it clear to visitors that they are entering the national park and what rules must be followed (ID 03). In all of the national parks surveyed, there are also tourist hotspots where tourism clearly outweighs nature conservation. Here, the focus is on good cooperation with the local stakeholders, since they are on site (ID 03) and the controllability is beyond the resources of the national park administrations. In the Wadden Sea National Park, there are specific contracts for the special use of these hotspots, e.g., Sankt Peter-Ording (ID 03). In Raet National Park, fireplaces have been set up at the hotspots in addition to tourist information points, in order to reduce the number of random fireplaces in the park (ID 02).

A major difference between the Norwegian and the German national parks is that in the Norwegian parks many tourists arrive directly by boat. This difference is partly due to the geographical conditions, as the Norwegian coast is easier to reach without major tidal influence and greater water depths. In addition, the stricter and larger zoning in the Wadden Sea National Park makes individual traffic more difficult. Therefore, to protect the seabed from anchoring, special floating moorings for boats have been established in the Raet National Park (ID 02). Furthermore, tourism in general in the Norwegian parks has a disorderly character due to individual activities such as swimming, hiking, kayaking, windsurfing, etc. These activities are also found in the Raet National Park. While these activities also take place in the Wadden Sea National Park, many tourists visit the national park through a guided mudflat walk. In visitor management, the Everyman's Right in Norway again plays an interesting role. Since this makes it difficult to ban visitors from entering the park, the focus must be on visitor management that voluntarily ensures that sensitive areas are avoided.

In summary, it can be said that all the national parks studied have internalized the importance of visitor management and are developing concepts to counter the growing volume of tourism. It is also evident in this area how closely the management instruments are interlinked and must be coordinated with each other. The Wadden Sea National Park has an advantage here in that it has had more time to gain experience in dealing with visitor management, it has a greater exchange of experience in a trilateral network, and it is easier to implement access bans in Germany.

Network

Another important factor for the optimal management and ecological condition of the national parks is a network for exchange with other national parks and experts. In this context, the Wadden Sea National Park already has an advantage, since it had considerably more time to develop than the Norwegian coastal national parks due to its 30-year existence. Thus, a trilateral network between Denmark, Germany and the Netherlands could be established. In this network, the joint Wadden Sea Secretariat (CWSS) supports, moderates and coordinates the cooperation. The inclusion of the Wadden Sea in the UNESCO World Heritage List also naturally offers the opportunity to pool the skills and experience of governmental and non-governmental organizations from the entire Wadden Sea region under one heading. On a slightly smaller scale, but otherwise similar in style, there is also cooperation in the Ytre Hvaler National Park. As the national park merges directly with the Swedish National Park Kosterhavet, there has been international cooperation since its foundation in 2009 and even before that (ID 01). After the establishment of Færder National Park in 2013, the cooperation was further expanded so that Ytre Hvaler and Færder National Parks from Norway and the Swedish National Park Kosterhavet could establish a network of cooperation to share their expertise. Of course, Raet National Park is also in contact with the other coastal national parks, but there is no official network among them (ID 02). In the case of Raet National Park, this may be due to the fact that it was only designated in 2016 and it takes time to build up a network. As there are now four coastal national parks in Norway, all located in a similar region not far from each other, building a network of all coastal national parks seems to be a meaningful option.

Integrated Coastal Zone Management (ICZM)

The long-term goal of integrated coastal zone management (ICZM) is to achieve a balance between ecological, economic, social, cultural and recreational objectives. This is in line with the objectives of the coastal national parks studied. It is therefore logical to use this link to improve and strengthen the management in the national parks in the long term. The systemic approach it offers is a considerable knowledge resource for understanding the dynamics of coastal areas and how they respond. As background knowledge, the ICZM concept is undoubtedly a good framework for assessing and understanding environmental problems. In the Wadden Sea National Park, ICZM already takes place in various areas and is practiced by the National Park Boards (MILIG (ED.), 2003). Considering the ongoing activities and the actual implementation of ICZM principles in numerous laws and procedures, this results in a comparatively

good starting situation for the Wadden Sea National Park. As ICZM also has a long tradition and is applied in Norway, a linkage with the objectives of the coastal national parks also seems to make sense here. In Norway, the objectives and tasks of ICZM should also be integrated into the national park boards in order to be able to influence all stakeholders involved. Furthermore, ICZM can play a major role in the further designation of new coastal national parks in Norway, as it can facilitate the process of identifying suitable areas as well as the basic planning.

In summary, integrated coastal zone management is used in both Norway and Germany and there are thematic similarities between ICZM and coastal national parks. On a larger scale, however, this has so far only been applied in the Wadden Sea National Park, where the National Parks Board is involved. Such a participation would also make sense for the Norwegian national parks and could also take place in a superordinate merger of all four coastal national parks.

7.1.3 The Public Right to Roam the Countryside (*Allemannsretten*)

The public right to roam the countryside is a highly valued part of Norwegian culture and is something that most politicians and resource managers handle very carefully (HAMMITT ET AL., 1992). At the same time, it represents a major and important difference in environmental and nature conservation between Norway and Germany. Basically, the Everyman's Right ensures that everyone can experience and enjoy nature and allows various activities, including fishing and hunting in "gentle" forms. Although the natural resources are to be impaired as little as possible, such impacts do occur. These forms of encroachment are actually to be prevented in national parks, so that a contradiction arises here. However, the right of public access also applies in Norway's designated national parks and thus has implications for the feasibility of management measures (ID 02). However, authorities and municipalities can also adopt regulations that restrict the right of public access. For example, there are areas with temporary access restrictions in national parks, but a zero-use zone is difficult to enforce. The fact that berry picking, hunting and, in the present case of coastal national parks, fishing remain possible in the national park seems somewhat strange against the background that the national park represents the highest category of nature conservation. Although it is anchored in the Everyman's Right that nature is to be treated with respect and that the activity is to impair resources as little as possible, against the background of the growing number of tourists this could become a problem. This means that each individual visitor is explicitly made responsible, which can become a problem with the

constant increase in tourists. At the same time, however, this can also lead to individual visitors dealing with the issue more extensively and thus achieving a greater awareness of nature.

In summary, it can be said that the Everyman's Right influences the character of the management measures and can partly lead to a softening of the protection possibilities. In Norway, indirect management measures such as the provision of information are mainly used. In principle, it is good that the municipalities have the possibility to restrict the right of public access in national parks. With regard to fishing and hunting, this should be enforced more strongly, especially in view of the increasing number of visitors.

7.2 Tourism

Nature tourism is on the rise worldwide and the number of visitors to national parks is increasing year by year. However, every form of tourism has social, cultural and ecological impacts (EAGLES & MCCOOL, 2002). Especially when combining nature conservation and tourism, a clear contradiction can often be seen. Tourism benefits from the attractiveness of an intact nature and environment, but at the same time can cause damage through excessive use. In this way, tourism can destroy its own "basis". On the other hand, tourism can also be an instrument for the conservation and protection of natural resources, as nature-friendly tourism can prevent overexploitation by other types of use (REVERMANN & PETERMANN, 2002). While nature conservation can be seen as a kind of brake on tourism development, e.g., through strict technical and legal requirements, the opposite can also be argued. Species-rich flora and fauna as well as undisturbed or only slightly disturbed nature represent a tourist attraction. Overall, it can be said that tourism can have both positive and negative impacts on the environment (FREYER, 2015). The extent of these impacts depends on many different factors. The basic difficulty here is that in many cases higher incomes can be generated through alternative tourism offers with many infrastructures that are fundamentally incompatible with a national park than through tourism that places the national park at the center of the tourist offer. In the present study, the fact that we are dealing with coastal national parks is an additional complicating factor. This is because coastal areas have an additional greater potential for conflict. On the one hand, this is due to the open system that needs to be protected. On the other hand, the history of coastal development shows that the pressure on these fragile systems is far greater than in many other areas, while the conservation value of these systems is equally high.

Looking at official figures such as the gross domestic product (GDP) and the number of people employed in the tourism industry, Germany and Norway are not so different at first glance. In 2018, for example, tourism accounted for 3.9% of GDP in Germany (OECD (ED.), 2014A) and 4.2% in Norway (OECD (ED.), 2014B), and the number of people employed in tourism was 6.8% in Germany and 6.7% in Norway. However, if comparing the absolute values, the differences are clear. In Norway there are 25,000 people employed in tourism (GRAEFE, 2020) and in Germany 2.92 million (BTW (ED.), 2020). The reason for this is, of course, that Germany has a much higher population density than Norway. Interestingly, the size of the country is very similar. Nevertheless, these figures show that tourism is of very similar importance in both countries. The exact number of visitors to national parks is difficult to determine. For example, the number of day tourists in the Raet National Park is estimated at about 1.4 million per year (ID 02) and in the Wadden Sea National Park SH at 14 million (NATIONALPARK WATTENMEER (ED.), 2018A). It should be noted, however, that the Wadden Sea National Park is also 7 times as large as the Raet National Park and has a much longer coastline. Ytre Hvaler National Park also has a very high number of visitors, but unfortunately exact figures are not available. There are several reasons why coastal national parks are under particular visitor pressure. One of these reasons is that all three parks are located in the catchment area of particularly densely populated areas (Oslo/Hamburg). For example, Ytre Hvaler National Park can be reached by 1.5 million people within 2 hours by car. This increases the pressure on nature and the national park (ID 01). And the Wadden Sea National Park also has Hamburg, the second largest city in Germany, in its catchment area. Furthermore, it depends crucially on the type of tourism whether there is a complementary or competing relationship between national park and tourism (TSCHURTSCHENTHALER, 2000). While, for example, mountain national parks are mainly visited by people who are actively looking for secluded places and intact nature, coastal national parks also have a high proportion of recreational visitors who come to the park for swimming, a day at the beach or water sports activities. Nevertheless, this also brings advantages for the municipalities. Many tourists, especially those looking for activities, are good for the local economy. However, some of these are counter-productive tourism industries such as jet ski rental, cruise tourists, etc. (ID 02). This only concerns the Norwegian national parks, as such trendy sports are not allowed in the Wadden Sea National Park and there are no mooring facilities for cruise ships along the national park coast. In the Norwegian national parks, a different type of tourism is also present than in the Wadden Sea National Park.

Many tourists visit Raet and Ytre Hvaler National Park with their own boat. These are boats that are moored off the coast, where they also spend the night. This type of visitor also exists in the Wadden Sea, but the prevailing conditions are fundamentally different. Boats must head for a harbor to anchor and spend the night. This is due to the geographical conditions. On the one hand, the Norwegian waters in the national park are considerably deeper and there are various bays along the coast where anchoring is safe. The waters of the Wadden Sea, on the other hand, do not offer any protective bays for anchoring and the tidal influence in particular prevents this form of tourism. This naturally leads to increased traffic in the waters of the Norwegian national parks and thus to increased disturbance of nature and the environment, as well as increased pressure on the seabird and seal areas (ID 01). The national park administrations are already working to counter this problem by using floating moorings to protect the seabed from damage through individual anchoring (ID 02). Nevertheless, an extension of the zoning and the introduction of a zero-use zone, which may not be entered or crossed, would be a sensible alternative in order to be able to protect the marine environment of the Norwegian national parks more sustainably.

The municipalities/districts bordering the national parks naturally benefit greatly from the tourism associated with the national parks. It is therefore not surprising that the municipalities/districts do not see fundamental conflicts between tourism and nature conservation (ID 05 & ID 06). Nevertheless, the opinion is expressed that the aim should be to communicate to tourists that nature is worthy of protection (ID 06). While the district of Nordfriesland (Wadden Sea National Park) considers the number of tourists to be too high in some places, which has a negative impact on nature and species conservation (ID 06), the municipality of Tvedestrand (Raet National Park) does not consider this to be a problem in its part of the national park at present (ID 05). According to this, the greatest danger comes from the disregard of the applicable regulations and laws (e.g., prohibition to enter, leash requirement for dogs, prohibition of drone photography, etc.) (ID 06). As already mentioned, there are controls to prevent this type of violation, but due to the lack of capacity (in Norway as well as in Germany), these are limited. It would make sense to develop a system of control, for example through a more extensive network of national park rangers, who would be responsible for compliance with the regulations and laws, especially in the highly frequented summer months. In addition, to ensure the protection of nature, good cooperation with partnership programs is important (ID 02). The national park must be perceived so that a certain sensitivity is created (ID 03).

For a good interaction between tourism and nature conservation, a specific strategy for sustainable tourism in the neighboring municipalities/districts could be an important tool. Such a strategy does not exist for the municipalities of Tvedestrand, Fredrikstand and the county of Nordfriesland (ID 05 & ID 06). However, in the Wadden Sea National Park and the associated municipalities, the Economic Development Corporation, in cooperation with the National Park Authority, is committed to sustainable tourism and arranges appropriate offers for accommodation, travel and activities (ID 06). Particularly in view of the greatest challenges for the future named by the municipalities/districts, a sustainable strategy for tourism inside, but also outside the national park seems to make a lot of sense. For the municipality of Tvedestrand, the avoidance of too much infrastructure (buildings and moorings) along the coast is the biggest future challenge (ID 05). The district of Nordfriesland also sees this as a future challenge, so that no hotel complex landscape is created, as well as ensuring nature-compatible tourism (ID 06). With these challenges, a future-oriented and long-term strategy for sustainable tourism can play an important role, also in view of the strong fluctuations in visitor numbers between the summer and winter months.

In summary, it can be said that national parks and especially coastal national parks can only function in agreement with tourism and would not be practicable without it. However, the type of tourism is of particular importance. The national park administration, politicians and the tourism organizations involved must create framework conditions that ensure the protection of national park values in the long term, despite increasing visitor numbers. Better cooperation between authorities and private stakeholders within tourism and nature conservation will be a key factor in developing (sustainable) tourism in coastal national parks. Furthermore, especially in the comparably young Norwegian national parks, there is a need for continuous development and improvement of the applicable management tools.

7.3 Choice of Methods and Critique of Methods

For a variety of reasons, the execution of this work was a challenging research, with a high degree of flexibility and accompanied by constant new findings and insights. As data collection and analysis were conducted simultaneously, it was challenging to stay focused on the research question and not be overwhelmed by the continuous volume of new documents and relevant information. As described in the methodology chapter, the empirical data in this thesis is based on both document analysis and expert interviews to provide key information. In the following sections, I will discuss the

limitations of this method and the consequences this might have for the validity and reliability of the work, as well as provide recommendations for further research.

7.3.1 Limitations and Data Strength

Each method, including the document analysis and expert interviews used in this paper, has its specific strengths and weaknesses. With regard to document analysis, documents are valuable from the researcher's point of view because they can be reviewed repeatedly, data collection requires low effort and covers a large time frame. The challenge with this type of data collection is that the data is open to interpretation and the documents studied may have low actuality or could be incomplete. This was tried to be minimized by presenting relevant facts about Norway and Germany at the beginning of the paper to improve the reader's own as well as contextual understanding. Furthermore, key documents such as the management plan, the visitor strategy and related legislation and national guidelines were used. This minimized the researcher's associated prejudice in order to generate reliable results. A limiting factor in document analysis can be restricted access to documents or incomplete collections of documents. Consequently, some documents of potential value were not fully available/accessible. However, due to a high degree of helpfulness on the part of the supervising evaluators as well as the respective national park administrations, it was possible to obtain information almost without any gaps. Unfortunately, one important document (visitor strategy of Ytre Hvaler National Park) could not be viewed, as it had not yet been published at the time of the study. Another limiting factor in the document analysis could be the language barrier. Some important documents were only available in their original language (Norwegian), so that a loss of information is possible in the translation process.

In addition to the document analysis, data was obtained through expert interviews. This allows exclusive access to expert knowledge and also offers the advantage of a free flow of conversation in which details can be discussed. A disadvantage of expert interviews is the dependence of the author on the experts. Unfortunately, it was not possible to interview the national park boards of the Norwegian national parks for this study, which meant that very informative statements on processes within the national park system could not be collected. Due to temporal and logistical reasons, a group of experts was interviewed in written form, using a questionnaire. The exact reasons, as well as the advantages and disadvantages, can be found in the chapter on methodology (cf. Chapter 5.2). At the same time, it should be noted that the creation of indicators for the operationalization of the dependent and independent variables as well as the

evaluation of the conducted surveys are always subject to a certain subjective interpretation on the part of the researcher. In order to avoid such interpretations, this thesis attempts to make this process as transparent as possible. Conversely, when conducting interviews, interpretations of the respective questions also take place on the part of the interviewees, which in the worst case no longer correspond to the intended intention of the researcher. In order to reduce the risk, the topic was repeated before conducting the interviews, as well as at the beginning of the questionnaire, in order to make the author's intention clear to the interviewees. A limiting factor in the interviews can also be the language barrier. For example, the interviews with the Norwegian interviewees were conducted in English, which can lead to modified or misunderstood statements in case of doubt due to language uncertainties.

7.3.2 Recommendations for Further Research

My study on the new coastal national parks of Norway and the Wadden Sea National Park has provided some preliminary comparative results. Due to the scope of the subject matter, as well as the limiting characteristics in the scope of master's theses, further research is recommended. In particular, as the Norwegian national parks are still quite young, some management tools have not yet been able to develop to their full extent. Thus, in order to be able to compare them definitively, another comparative study in 5-10 years may be useful. Furthermore, a comparison of the Norwegian coastal national parks with the longer established mountain national parks within Norway would also be useful. Especially with regard to the Norwegian national park system, which is based on mountain national parks, a comparative study between parks from these categories would also be meaningful.

8 Conclusion

For decades, the Norwegian national park system was characterized by mountain national parks and it was relatively late that national parks began to be designated in coastal areas. In Germany, on the other hand, coastal national parks were among the first parks to be designated. At the same time, the tourism industry, especially nature tourism, is in a constant state of growth. Coastal national parks represent a very popular interface between nature conservation and tourism, which places special demands on the management of these national parks. One reason for this is that coastal national parks have to deal with tourism and economic interests on land and at sea at the same time. Furthermore, coastal national parks, especially those studied in this thesis, are located in the catchment area of densely populated regions. The type of tourism also

plays a decisive role in how great the influence of tourism on nature conservation is. In this case, however, the national park administration can influence the impacts with targeted management and appropriate management instruments. Due to the different national park systems, as well as different legal situations between Norway and Germany, similarities can be recognized here, but there are also clear differences in management.

This is particularly evident in the management instruments of the coastal national parks studied. Starting with the management plans, it quickly becomes apparent that the management plans of Ytre Hvaler and Raet National Parks are very comparable. Of course, there are minor differences due to the geographic conditions, the local flora and fauna, and other specific features of the respective parks. However, since the management plan of Ytre Hvaler served as a kind of blueprint for the later designated coastal national parks, the structure, content and scope of the management plans are very similar. As the trilateral Wadden Sea Plan is a special case for the Wadden Sea National Park, significant differences were to be expected. The comparison of these three management plans, however, showed that there are no major differences. All three plans deal with very similar contents. It should be noted that the Norwegian management plans place a special focus on the avoidance of infrastructure. Furthermore, the extended detailed plans for individual themes, ecosystems or regions, in addition to the WSP of the Wadden Sea National Park, allow for more precise management planning. Overall, the management plans give the impression that in the Norwegian national parks, more emphasis is being placed on commandments instead of prohibitions, and thus on indirect management. This is directly related to the Everyman's Right, which can make targeted management more difficult, as it can restrict the enforcement of targeted measures. However, it should be said that the Everyman's Right does not have a fundamentally negative influence on management and nature conservation. Nevertheless, taking into account the increasing number of visitors to national parks, it should be observed whether restrictions on the right of public access will become necessary.

Major differences become apparent when looking at the zoning systems applied in the national parks. The differences in zoning between the Ytre Hvaler and Raet National Parks are negligible, as there are minor quantitative differences, but no qualitative ones. The Wadden Sea National Park has a much more extensive and also higher quality zoning system. Due to the increased seaward pressure from individual traffic in the

Norwegian coastal areas, a revision of the zoning is recommended. The internationally valid IUCN guidelines should be taken into account. The establishment of a zero-use zone would be a particularly important aspect here. The need for action in the case of zoning and, above all, the desire for improvement for the still young Norwegian national parks became clear in the interviews with the national park administration. In order for this to be implemented, a high level of political commitment is particularly important, so that in the best-case scenario an adjustment of the zoning regulations in the entire national park system can be achieved.

From the data and information collected in this work, it becomes clear that there is an area of tension between visitor use (tourism) and nature conservation. The extent of this depends on the respective circumstances in the national park (number of visitors, visitor structure, user structure, resilience of nature) and should not be generalized. It is therefore to be welcomed that all Norwegian national parks have been obliged to develop a visitor management strategy. The aim should be to combine the interests of both aspects in the area of conflict, namely high-quality nature conservation on the one hand and the experience of nature on the other. However, the success of these applied measures is only possible with a well-founded knowledge of the respective conditions in the national park. In this context, it can be assumed that the Wadden Sea National Park has an advantage over the still young Ytre Hvaler and Raet National Parks. This is due to the longer period of time in which experience in visitor management and in the existing conditions of a national park in the coastal region could be gained. Especially due to the large network and the trilateral cooperation in the Wadden Sea and the associated greater resources for visitor management, the national park is better positioned in this area. However, as the tensions in the Norwegian coastal national parks are well known, a concretization and steady improvement of visitor management in the Ytre Hvaler and Raet national parks can be expected over the next few years. It should be noted that visitor management is dependent on the respective conditions of the national parks and that with this management, the tension between tourism and nature conservation can be mitigated with permanent attention to the conditions. However, it has also become clear that especially in connection with the increasing number of visitors in all three national parks and the corresponding size of the parks, there are too few staff to provide information about the area.

In conclusion, it can be said that the management of national parks is influenced by a number of factors. As a result, the transferability of management tools and methods is

not always possible. Even though Ytre Hvaler, Raet and the Wadden Sea National Park share many of the same characteristics at first glance, it is important to identify the parks' unique challenges before different techniques can be transferred. Furthermore, it is the author's impression that the prevailing rules and regulations in the Norwegian coastal national parks of Ytre Hvaler and Raet are much looser than in the Wadden Sea National Park. There is also more freedom of movement for tourists. This is largely due to the Norwegian national park system in combination with the Right of public access but is also influenced by the basic character of the parks. On the one hand, there are far fewer visitors to the two Norwegian parks than to the Wadden Sea, and on the other hand, it is only possible to enter the tidal flats to a limited extent due to the tide. The fact that the Wadden Sea National Park is also a UNESCO World Heritage Site increases the pressure on the national park administration and leads to stricter implementation of management measures.

Fundamentally, it can be said that the Norwegian coastal national parks, despite their still young history, make an important contribution to coastal protection in Norway. They are the beginning of a new era in Norwegian nature and coastal protection. It can be assumed that the number of coastal national parks in Norway will continue to increase in the coming decades. The knowledge gained from the existing four coastal national parks can be valuable in optimizing management tools and creating a large network of coastal national parks.

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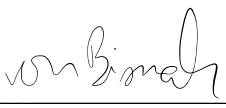
10 Declaration

I, Robert M. von Bismarck declare that this thesis is a result of my research investigations and findings. Sources of information other than my own have been acknowledged and a reference list has been appended. This work has not been previously submitted to any other university for award of any type of academic degree. Furthermore, I affirm that I have followed the general principles of scientific work and publication as laid down in the guidelines of good scientific practice of the Carl von Ossietzky University Oldenburg.

Signature: 

11 Appendix

Appendix 1: Interview Guideline for the National Park Administrations

Before the interview (notes for the interviewer):

- Briefly introduce yourself (name, age, course of study...)
- Thank the interviewee for his or her help/participation in the survey.
- Give a brief indication of the research objective: **"The interviews are conducted to find out how wide the area of conflict between nature conservation and tourism is in coastal national parks and whether coastal national parks face different challenges than national parks without marine influence.**
  At the same time the aim is to compare the structures of the still quite young Norwegian coastal national parks with those of the longer existing German coastal national parks."
- Obtain consent for sound recording.
- Giving the opportunity for open questions.

General introduction (Info on Respondent)

- Please briefly introduce yourself and your career?
- How long have you been working in the National Park Administration and can you briefly describe your tasks?

Subject area 1: Background information on the national park

1. What processes had to be gone through to establish the national park?
   1.1. What were the main difficulties?
2. Are coastal national parks facing special challenges, especially compared to national parks without marine influence?
   2.1. What are the challenges?
   2.2. To what extent do these particular challenges affect management?
   2.3. Will this also affect tourism?

Subject area 2: Background information on tourism

3. The national park is located in the catchment area of a particularly densely populated area (Oslo / Hamburg).
   3.1. Is this an advantage or rather a disadvantage for the national park? -Please give reasons
   3.2. What challenges does this pose?
4. What are the greatest potentials for conflict between nature conservation and tourism?
5. Is there a specific strategy for sustainable tourism in the national park?

Subject area 3: Tourism vs. national parks

6. In your opinion, are tourism and nature conservation fundamentally opposed?

7. Please list what you consider to be the most serious threats to the National Park from uses or from external or environmental influences.
8. How can protected area management, as well as visitor traffic and other human disturbance, be managed to achieve both objectives?

Subject area 4: Capacity and scope of management tools (management plan, zoning, visitor strategy)

9. Which management method was chosen for the national park (e.g. adaptive management (Open Standards for the Practice of Conservation))?
   9.1. Why was this method chosen?
10. How important are the management instruments to do justice to both tourism and nature conservation?
    10.1. Why are they so important?

Subject area 4a: Management plans

11. Does the management plan contain a clearly formulated vision for the future of the national park (e.g. description of the desired results of the management with deadlines), which will help the national park administration?
12. Are there conflicts with objectives of other (management) plans?
    12.1. If so, can these conflicts be resolved?
13. Are there serious differences in the management plans of coastal national parks compared to those without marine influence?
    13.1. If so, what do they look like?

Subject area 4b: Zoning

14. Are there areas that are not allowed to be entered at all (zero use zone)?
    14.1. If so, is it controlled?
    14.2. If not: why is there no such thing in the National Park?
15. Are the internationally valid IUCN guidelines taken into account for zoning?
16. Does zoning help to create more specific measures to shape tourism and conservation efforts?

Subject area 4c: Visitor strategy

17. Is there a spatial visitor guidance concept in the National Park?
    17.1. Are the visitor facilities located in the peripheral area?
    17.2. have sensitive areas been avoided on hiking trails? etc.)
18. Is there an orientation and guidance system in the national park?
    18.1. What are the characteristics of this orientation and guidance system?
19. Are the national park areas easily accessible by public transport or does the NLPV try to keep the individual traffic of visitors outside?

Final question:

20. Is there anything else that is important to you that we have not addressed so far?

Appendix 2: Questionnaire for the Counties

Comment: The questionnaire presented in the appendix concerns Ytre Hvaler National Park. In the questionnaires of Raet and Wadden Sea National Park specific names have been adapted.

Commune: .....

Name of the interviewee: .....

Place: .....

Tel: .....

Background

The aim of this master's thesis is to find out how great the tension between nature conservation and tourism is in coastal national parks and whether coastal national parks face different challenges than national parks without marine influence. In doing so, I compare the Norwegian national parks Ytre Hvaler and Raet, as well as the Wadden Sea National Park from Germany. The aim is to compare the structures of the still quite young Norwegian coastal national parks with those of the German coastal national parks that have existed for a longer time.
The questionnaire focuses on the conflict potentials between nature conservation and tourism and the related competences of the bordering counties.

Declaration on data protection

Your personal data will not be used for evaluation but will allow me to make any possible queries. The provisions of data protection according to the DGSVO will be observed.
For the further scientific evaluation of the interview texts, all information that could lead to an identification of the person will be changed or removed from the text. Personal contact data will be stored separately from interview data and inaccessible to third parties. After completion of the research project, your contact data will be automatically deleted.

1. Was/is the establishment of the national park an advantage or disadvantage for the commune?
How do the advantages and disadvantages look like?

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2. In your opinion, are nature conservation and tourism fundamentally opposed to each other?

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3. What are the greatest potential conflicts between nature conservation and tourism?

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4. Is the image of the commune influenced by the national park?

☐ **Yes**

Please give reasons for your decision:

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☐ **No**

Please give reasons for your decision:

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5. Is there a specific strategy for sustainable tourism in the commune of Hvaler/Fredrikstad?

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6. To what extent is the commune of Hvaler/Frdrikstad involved in decisions concerning the National Park?

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7. How would you rate the cooperation with the national park administration?

- ☐ very good
- ☐ good
- ☐ medium
- ☐ heavy
- ☐ very heavy
- ☐ there is no cooperation

Please give reasons for your decision:

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8. Was/is the commune involved in the management plans of the national park? How great is its influence?

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9. The national park and the commune are located close to a highly populated area (Oslo) or rather a very popular holiday area: Is this an advantage or a disadvantage for the commune?
What challenges does this cause?

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10. Is integrated coastal zone management (ICZM) an important tool for planning coastal national parks?

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11. How would you rate the following statement: "Coastal national parks face particular challenges compared to inland national parks"?

- ☐ Fully applicable
- ☐ Applies predominantly
- ☐ medium
- ☐ rather not applicable
- ☐ Does not apply
- ☐ not specified

What could be the major issues?

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12. In view of the steadily increasing tourism figures, what are the biggest challenges for the commune in the future?

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Appendix 3: DVD with Audio Files of the Interviews and the Corresponding Transcription