Nomination of the Dutch-German Wadden Sea as World Heritage Site

- Volume Two -

ANNEXES
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Annex 01

The Outstanding Universal Value of the „Wadden Sea“:
A Geological Perspective
Expert opinion

for the Submission of the Dutch-German Wadden Sea for inclusion in the
World Heritage List

The Outstanding Universal Value of the „Wadden Sea“:
A Geological Perspective

1. Criterion vii: “contain superlative natural phenomena or areas of exceptional
natural beauty and aesthetic importance”

The oldest written record in which reference is made to the Wadden Sea dates back to the
1st Century AD when the Roman historian, Pliny the Elder, after personally visiting the
southern North Sea coast in the year 47 AD, described it in his epochal work “Naturalis
historia” as an “immeasurable expanse” which is inundated by the sea with forceful currents
twice a day and of which it was uncertain whether it formed part of the land or the sea.

The manner in which Pliny describes his experience vividly expresses the fascination and
awe which this strange and unique landscape aroused in an uninitiated observer. Is there a
better way of expressing the outstanding universal character of a natural environment? The
fascination and awe of this environment has persisted for thousands of years now, and it will
continue to do so as we ponder the changes which the predicted acceleration in sea-level
rise in the course of the next century will impose on it.

The fascination lies in the serene beauty and deceptive peacefulness of the continually
changing landscape in the course of a mild and calm summer’s day, when people walk the
intertidal flats, making their way to the barrier islands between two high waters. Awesome,
indeed, is the experience of a severe winter storm which suddenly and vehemently
transforms these placid waters into a turmoil of howling winds, breaking waves and surging
water levels which threaten property and life. The written history of the region over the last
millennium is full of pitiful records of such destructive inundations. Even as recently as 1953
in the Netherlands and 1962 in Germany, severe storm surges resulted in the loss of many
lives, reminding us that - in nature - beauty and hazard often are but two sides of the same
coin. The Wadden Sea is rightly being nick-named: “the flat wilderness”. It is constantly
changing and developing during every tide, and with every storm surge forming a bewildering
multitude of unexpected forms of channels, marshes and tidal flats.

To consider this remarkable area as being beautiful is, as always, a judgement in the eye of
the beholder. But we, the authors, are, after all these years, still fascinated and smitten by
this overwhelming and unique landscape (Fig. 1).
2. Criterion viii: “be outstanding examples representing major stages of earth’s history, including the record of life, significant on-going geological processes in the development of land forms, or significant geomorphic or physiographic features”

a) Morphometry: geography and hydrography

The Wadden Sea is located along the continental coastline of the southern and southeastern North Sea, stretching for about 500 km between Den Helder in the Netherlands (≈ 52°54’N/04°52’E) and Ho Bugt in Denmark (≈ 53°36’N/08°17’E) (Fig. 2). The nomination for the World Heritage List, in this case, restricts itself to the Dutch and German sectors of the Wadden Sea, where special protection statuses have been implemented in the form of National Parks (Germany) or Nature Conservation Areas (Netherlands).

The area of the Wadden Sea as a whole, i.e. the combination of tidal flats, tidal channels and barrier islands, amounts to 9,281 km². Of this, 2970 km² or 32% are located in the Dutch sector and 5215 km² or 56% in the German sector (CWSS 1991; QSR 1993). Together, the Dutch and German sectors of the Wadden Sea thus occupy 88% of the total area. The tides are semidiurnal, the tidal range increasing from 1.4 m in the west (lower mesotidal) to around 4.0 m (lower macrotidal) in the inner German Bight, and back to 2.0 m (upper mesotidal) at the border between Germany and Denmark (and decreasing to 1.5 m near Skallingen). Maximum tidal current velocities in the channels typically reach about 1.5 ms⁻¹ at spring tide. Although tidal action dominates the morphologic evolution, wind stresses and waves are important additional driving forces.
b) Morphology: a global perspective

The Wadden Sea (German and Dutch sectors) is an outstanding example of the on-going coastal and marine processes in the development of tidal flat deposits, which has led to the formation of the largest temperate zone tidal flat system in the World. According to the Ramsar Convention, the Wadden Sea falls into the wetlands category of estuaries, mangroves and tidal flats. Due to its sheer size, the Wadden Sea tidal flats morphologically and ecologically qualify as a wetland of major value. Searching through the lists of wetlands and considered wetlands (Thorsell et al., 1997, and the list of UNESCO World Heritage) shows that only few areas of the World Heritage list consist (partly) of tidal flats. The Wadden Sea is unique in that it consists entirely of a temperate-climate, sandy-muddy tidal system with only minor river influences fringing the flat and low-lying coastal North Sea Plain of the German Bight. Most of the tidal flat systems on the World heritage lists (both admitted and nominated) are closely related to rivers and their deltas, which, from a morphological and geological point of view, differ strongly from the Wadden Sea situation (e.g. Kakadu National Park in Australia and Sundarbans mangrove forest in Bangladesh), or are quite mountainous (e.g. Gros Morne National Park in Canada). The only tidal flats system, which is to some
extent comparable, is the Banc d'Arguin National Park in Mauritania. This, however, is tropical-subtropical in character.

In principle, intertidal flats and barrier systems can be found worldwide along the shores of most continents and at latitudes from the tropics to the arctic ocean (e.g. Flemming 2002a, 2003). The preconditions are a low-gradient coastal plain and a sufficiently large supply of sediment to at least compensate the rate of sea-level rise. It is sufficient that these conditions existed at some stage during the past 8,000 years or so in order to initiate the formation of such coastal systems. Their survival to this day was then simply a function of the overall sediment budget in the course of continued sea-level rise, coupled with the slope angle of the hinterland.

At closer inspection, a number of unique types of tidal flat and barrier systems can be distinguished on the basis of biological criteria, although the basic physical form is identical in all cases. Thus, tidal flat and barrier systems in tropical and humid-subtropical climates are fringed by extensive mangrove forests (Augustinus 1995), whereas those in arid-subtropical, mediterranean, and higher-latitude climates are characterized by salt marshes (Chapman 1974). In addition, the benthic fauna varies with latitude, tropical and subtropical systems being dominated by a variety of burrowing crabs as indicator species which are progressively replaced by polychaetes and mussels towards higher latitudes (e.g. Reise 2000).

The Wadden Sea belongs to the salt-marsh category of tidal flat and barrier systems. It differs from other systems of this type in that it is the only extensive tidal flat and barrier-island depositional system in the World (it is also Europe's largest coastal tidal marsh and, as far as information is available, one of the biggest temperate climate inter-tidal flat area's with little river influence in the World, excluding mangrove areas). It is dominated by vast expanses of intertidal sediment flats which are exposed at low tide and display a progressively shoreward-fining grain-size gradient (Flemming & Bartholomä 1997). Due to this, and since it was described very early in the 20th century, it is a world-wide unique standard for reference and comparison with other tidal flats in the world. It commences with sand flats in the seaward sections, followed by mixed flats and finally mud flats along the mainland shore (e.g. Dijkema 1989). By contrast, the tidal flats of similar systems in other parts of the world are almost entirely occupied by eel grass meadows (e.g. the Ria Formosa in southern Portugal) or cord-grass marshes (e.g. the east coast of the U.S.A.). This fundamental difference in outward appearance produced by natural vegetation is due to a high supply of fine-grained sediments in the latter cases which has enabled the grass meadows and marshes to encroach entire sand flats by the capture and accretion of mud. Insufficient mud deposition has evidently prevented such basin-wide encroachments by sea grasses or pioneer plants in the case of the Wadden Sea, thereby defining the unique character of its landscape of mainly barren shoals divided by an intricate fractal channel pattern. And unique it is indeed: the Wadden Sea is mentioned in many international textbooks as the example, par excellence, of extensive meso- to macrotidal flats (Zenkovich, 1967; Cronin, 1975; Machatschek, 1973; Reineck & Singh, 1980; Reading, 1981; Schwarz, 1982; Allen, 1984; Stanley, 1989; Eisma, 1998; Reise, 2001).

c) Morphology: the unique details

The integrity of the depositional system composed of a hierarchy of hydro-morphological units is expressed in a coherent lateral sequence. Thus, the basic units of the West and East Frisian Wadden Sea are a series of contiguous tidal basins which are separated from each other by tidal watersheds (Flemming & Davis 1994; Oost & de Boer 1994). These, in turn, are subdivided into a number of characteristic erosional and depositional features such as barrier islands, inlets, ebb-deltas, tidal drainage networks comprising a series of channel hierarchies (gullies), sand flats, mixed flats, mudflats, and salt marshes.
In addition to these structural elements of the barrier islands and tidal basins, the shorefaces of the West and East Frisian barrier island systems consist of several morphodynamic units which, from a geological point of view, are integral parts of the system as a whole: integrity of the interaction is still intact. Thus, the lower shoreface below about 10-12 m of water depth is structured into a series of NW-striking ridges and valleys, so-called shore-face connected ridges, which have spacings of several kilometres and heights of up to 6 m. Such ridge systems have also been reported from other parts of the world, both from barred and non-barred tidal coasts.

The morphology of the upper shorefaces, by contrast, can be subdivided into shore-parallel sand bars typical of many surf zones worldwide, and NE-striking so-called sawtooth bars which occur in water depths between 3 m and 6 m and which have spacings of around 450 m and heights of up to 2 m (Fig. 3). Flemming & Davis (1994) have reinterpreted this ridge and swale topography as representing incised rip-current channels associated with nearshore wave/current generated resonance phenomena. These features appear to be unique to the Dutch and German barrier-island coast.
The macrotidal part of the Wadden Sea lining the inner German Bight lacks barrier islands and hence also ebb-deltas, but otherwise displays similar features as the back-barrier tidal basins, including a number of tidal watersheds. The reason for the absence of barrier islands is the large volume of water which has to be moved into and out of the coastal zone twice a day by the falling and rising tide. This leaves no room for barrier islands, although small ephemeral sand-bank islands may occur from time to time in odd places around mean sea level (Ehlers 1988). In addition, extensive shell beds line many upper sand flats due to the stronger action of storm waves which are less effective in the more protected tidal basins in the rear of the barrier islands.

Locally, unique sedimentary features are present such as naturally open barrier coasts consisting of dunes intersected by small wash-overs (e.g. Ameland). This is unique to NW-Europe.

d) Morphodynamics

As stated above, geological processes are still very active in the development of landforms and continuously lead to the renewal and/or destruction of the landscape by building and/or destroying a variety of geomorphic features. The Wadden Sea's outstanding universal value is mainly due to the strong hydraulic and aeolian dynamics leading to prominent morphological changes on a variety of spatial and temporal scales, from whole groups of inlet systems, influencing each other over many centuries, down to the shifting of a ripple in the order of minutes. Of course, the natural forces not only lead to an autonomous dynamics, but also react to human interventions in the form of land reclamation and dike construction. Morphodynamic adjustments are possible due to the fact that the Wadden Sea system can still react in a natural way to these influences because it is still able to evolve freely in the larger part of the tidal system. On each scale destructive exogenic processes alternate with constructive ones.

Closely interwoven with these dynamics are human activities, man having sought to improve the quality of life in and around the area for hundreds and even thousands of years. Fisheries, tourism, transport, agriculture and even industry depend on the tides and the changes they bring about in the system, from day to day and from year to year.

e) Morphogenetics

Although we would not press this as a major criterion, the Wadden Sea in its way also represents, in quite a dramatic way, two natural examples of coastal shelf development under conditions of the Holocene sea-level rise. The modern Wadden Sea evolved in the course of coastal evolution since about 8,000 years BP in the wake of the postglacial sea-level rise. Next to sea-level rise itself, a progressively growing tidal range resulting from the increasing water depth in the North Sea basin, the regional storm climate, the sediment budget and, last but not least, an increasing human impact have played prominent roles in its evolution in the course of the last millennium (e.g. Oost & de Boer; Flemming & Davis 1994). However, on the whole, the Wadden Sea has kept its morphological integrity, showing a broad suite of geomorphological features.

As a result of sea-level rise and a mostly deficient sediment budget, the coast retreats in a landward direction while accreting vertically. Today, we distinguish between transgressive and aggradational tidal flat systems in the Dutch and German sectors of the Wadden Sea (cf. Vos & van Kesteren 2000; Flemming 2002b). The lower mesotidal West Frisian (Dutch) and the upper mesotidal East Frisian (German) barrier island systems are transgressive systems. Since not enough sediment is imported from external sources, the systems compensate sea-level rise by moving material from their upper shorefaces to the back-barrier basins. As a consequence, the islands migrate shorewards across their own back-barrier flats in a
process also known as roll-over. The lower macrotidal, non-barred tidal flats of the inner
German Bight and southern section of the North Frisian tidal flats, which occasionally display
ephemeral supratidal shoals, are essentially aggradational systems, sediment influx from
external sources in this case compensating sea-level rise. The northern, barred section up to
the border of Denmark is once again transgressive. Form, sequence and scale of these
subdivisions are unique to the Wadden Sea.

f) Morphochronology: relevance for the geological inventory

The long-term depositional history has led to the formation of a series of sedimentary
deposits which have recorded the development of the Wadden Sea and climate in great
detail. Such datable sediments (e.g. Vlieter deposits) and landforms (e.g. SW Texel and the
German tidal marsh deposits) can be considered a universally important archive of the
Holocene history of sea-level rise, climate, and depositional response.

As stated above, the Wadden Sea represents an outstanding example representing the
Holocene development of a sandy coast under conditions of a rising sea level, and, as such,
attracted the interest of scientists at an early stage of scientific endeavour. The Wadden Sea
is one of the earliest and best studied depositional systems in the world, first scientific
investigations dating back to the early years of the last century. Over the years, Dutch,
German and Danish geoscientists in particular have established large archives of
documentary evidence for tidal processes, stratigraphy, sedimentary structures and sediment
distribution patterns in the form of numerous publications, maps, drawings, photographs,
slides, seismic profiles, lacquer peels, resin casts, and core logs (see overview of the most
important institutes). Together they form an invaluable and unique inventory of the geological
character of the Wadden Sea and its genesis, which is unparalleled in the world. Such
archives are accessible at a number of marine research stations lining the Wadden Sea
coast. In this context, the geological/geomorphological criterion (viii) favouring a nomination
of the Wadden Sea for the World Heritage List not only relates to the theme “coastal
systems”, but has direct links to other themes such as “stratigraphic sites” and “fossil sites”.

As indicated above, the stratigraphic and fossil record of the Wadden Sea form part of the
overall geological inventory accumulated in the archives of numerous coastal research
institutions.

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f) Educational value

As in the case of other natural environments, a generally underrated value of the Wadden Sea is its important role in coastal education and research. Wadden Sea research has become synonymous with the geological principle that “the present is the key to the past” (Lyell 1830-33; Geikie 1905). There are few marine areas in the world which are so easily and directly accessible for a hands-on education of scholars and students in the natural sciences. Every year, dozens of school and university classes visit the Wadden Sea for educational purposes, often under the guidance of one of the marine research stations located along the coast. Besides coming from Germany and The Netherlands, regular excursion groups come from afar as Austria and Switzerland. In addition, professional courses are offered regularly to geoscientists employed in governmental, semi-governmental and industrial institutions.

3. Conclusions

The “outstanding universal value” of the Wadden Sea can be summarized as follows:

1) It is a landscape of Outstanding Beauty. It has a long historical record of intensive interactions and responses to human settlement and intervention

2) It is the largest sandy-muddy tidal flat and salt marsh area protected by sandy barrier systems occurring in the temperate zone of the world;

3) Its shoreface shoreline is characterized by morphological features which are at least in part unique to this area: despite human interventions, it has maintained its unique character and morphological integrity;

4) It forms an important natural educational and research laboratory for scholars, students and scientists by illustrating the geological principle that “the present is the key to the past”, with the oldest written record dating back almost 2000 years. Two examples: it forms a comprehensive archive of Holocene coastal evolution, climate change, and depositional responses which is unparalleled in the world;

5) It can be directly linked to other themes of the World Heritage List such as “stratigraphic sites” and “fossil sites”
4. References


Thorsell et al., 1997


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Annex 02

The Outstanding Universal Values of the „Wadden Sea“:
An Ecological Perspective
Wageningen IMARES
Institute for Marine Resources & Ecosystem Studies

Report
Number: C037/07

The Outstanding Universal Values of the Wadden Sea: an ecological perspective

M.J. Baptist
N. Dankers
C. Smit
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Summary

This report describes the Outstanding Unique Values of the Wadden Sea from an ecological perspective, that is, according to criteria IX and X for the nomination of World Heritage Sites, as defined by the IUCN World Commission on Protected Areas.

The Wadden Sea is an outstanding example of the Holocene development of a sandy coast under conditions of rising sea level and is unique in that it is the largest extensive tidal flat and barrier island depositional system in the World. Its geological and geomorphological features are closely entwined with biophysical processes (biogeomorphology). The biogeomorphological interactions are notably strong and unique on all scales.

The rich and diverse habitats are of outstanding international importance as an essential habitat for of migratory water birds using the East Atlantic Flyway and other migration routes between South Africa, Northeast Canada, and northern Siberia. It is one of the few shallow seas in the Northern Hemisphere with a relatively high production of fish and serves as a nursery area and an essential staging area for species migrating between freshwater and saltwater for spawning and feeding.

The proposed property encompasses all the biophysical and ecosystem processes that characterise a natural and sustainable Wadden Sea. The standards of protection, management and monitoring ensure that the natural Wadden ecosystem, with all its component parts, will continue to evolve naturally and to sustain human uses for the foreseeable future. Man’s use of the natural resources in a sustainable way including traditional resource use is a key to guarantee its integrity for generations to come.
1 Introduction

Since the Esbjerg Wadden Sea Conference in 1991, the nomination of the Wadden Sea as World Heritage Site is being prepared. In recent years progress is high; since 2005 The Netherlands and Germany are working hard on the preparation of a nomination dossier.

The ministry of Agriculture, Nature and Food Quality is co-ordinating the nomination on behalf of the Dutch government. They have requested IMARES, location Texel, to report the Outstanding Universal Values of the Wadden Sea with regard to criteria IX and X. These criteria describe the most important and unique on-going ecological processes and the biodiversity in the nominated site. In addition, the natural integrity of the site should be assessed, the protection and management status should be described and a comparative analysis of other similar sites around the world should be made. This knowledge subsequently feeds into Chapter 3 of the nomination dossier and the complete text of this report will be incorporated as an appendix to the dossier.

This report consists of two chapters that refer to the criteria IX and X as defined by the IUCN World Commission on Protected Areas, and a list of references.
2 Criterion ix

“be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals”

Physical processes shaping shallow coastal zones can be found anywhere in the world. The Wadden Sea, however, is of a special kind. It is the only non-tropical extensive tidal flat and barrier-island depositional system in the World (see criterion viii) (Wolff, 1983). Very characteristic are the non-fixed, and therefore ‘walking islands’ or considerable parts of islands. Of a special kind are the biogenic structures such as reefs of oysters, mussels or tube-building worms that affect the morphology as ‘ecosystem engineers’. Its sheer size gives rise to a multitude of biophysical and ecological processes that cannot be found within one system anywhere else. The Wadden Sea is characterized by a complete system of gullies and flats, i.e. an outer delta, a tidal inlet and a basin with ebb-and flood gullies that end in very small ‘prielen’. The completeness of this system, which is found in a fractal manner, is extraordinary; see Figs. 1, 2 and 3. The tidal-channel systems can be regarded as ‘statistical self-similar fractal’ networks and the similarity of the channel systems points to a self-organising nature (Cleveringa & Oost, 1999). On smaller scales, fractal patterns are also found in the muddy deposits. Moreover, the spatial distribution of intertidal benthic communities shows fractal patterns as well. Intertidal mussel beds in the Wadden Sea, for example, show a spatial self-organisation (Van de Koppel et al., 2005). Interestingly, the origin of fractal patterns in ecosystems can have seven different explanations (Halley et al., 2004). For benthic communities two possible explanations are likely: The first is that a fractal distribution of abiotic factors presents a template upon which organisms and communities operate. The second is that a fractal spatial pattern is a result of community self-organisation which is transformed in spatial structures under environmental influences (Azovsky et al. 2000). A final answer has not been given yet. It is known that complex spatial patterns affect ecosystem processes such as resource utilization, movement of organisms and redistribution of nutrients, and that they support more complex ecological communities (Turner, 1989; Levin, 1992). Research focusing on the linkages between scales, ecological processes and complexity is a central problem in biology. The Wadden Sea is a prime example.

An ecosystem can only function in an optimal state when all physical, chemical, geomorphological and biological processes can operate in an undisturbed and coherent manner and in a functional relationship. When a system is large enough and many parts are relatively undisturbed there is a big chance that this will be the case for the system as a whole. The Wadden Sea fulfills this criterion.
Fig. 1. Pattern of gullies in the Eijerlandse inlet between Texel and Vlieland (scale 30x30 km)

Fig. 2. Pattern of ’prielen’ on a tidal flat (scale 200 x 200 m) (Photo courtesy Martin de Jong, IMARES).

Fig. 3. Pattern of very small ’prielen’ on a tidal flat (scale 1x1 m) (Copyright Waddenvereniging).
The Wadden Sea is a relatively young system that has developed because of sea-level rise in the past 6000 years (Beets & Van der Spek, 2000). It has a variety of flat types, ranging from coarse sand in the inlet, up to silt and mud along the inner margins and at the tidal divide behind the barrier islands. Some flats emerge only shortly, others only inundate during storm floods. In an interplay of physical, ecological and biological processes specific structures or even landscape size forms develop. On the shore, where vegetation can grow, coastal dunes form in the more exposed, sandy parts and saltmarshes in the sheltered, muddy parts. In the tidal flat itself, extremely high densities of specific animal species influence the system in such a way that they form biogenic structures such as mussel beds, oyster and Sabellaria reefs. To our knowledge, such biogenic reefs in non-tropical waters have not been listed before in World Heritage Nominations.

The whole range of these geomorphological and biological structures and communities occur in a functional relationship, making the Wadden Sea a ‘complete’ ecosystem. This means that functional relationships are found on all spatial and temporal scales in coherence with each other. Its completeness and size make the Wadden Sea an outstanding and unique non-tropical ecosystem. Furthermore, due to the estuarine influence of the Rhine (although through sluices) and Eems, Weser, Elbe, Eider and Varde Aa one finds density-driven currents, a turbidity maximum and a biological richness including migratory fish and brackish species.

Physical drivers, such as tides, wind, currents, waves, and biological processes, such as competition for resources, occurring in a large area have resulted in the richness of geomorphological and biogenic structures found. Due to the undisturbed presence of these processes, structures are not only conserved, but there are also rejuvenation cycles, creating new structures and breaking down old structures. Examples are the dunes and saltmarshes that can be found in all stages of succession, and structured mussel banks, which are formed by a combination of growth and food depletion from the overlying water (Van de Koppel et al., 2005).

As a shallow sea, the benthic-pelagic coupling is notably strong, and the primary and secondary production are high. This production forms a foundation to the intricate food web that ultimately results in an important nursery area for fish, a foraging and resting habitat for seals, and a foraging habitat for waders, which will be discussed later in more detail. These functions of the Wadden Sea, and specifically its importance as a nursery area, were the main arguments in the 1970s not to embank this system, and it still serves as a prime example of the change in attitude in large scale conservation of ecosystems on landscape scale. In the US at that time the emphasis was laid on the function of saltmarshes in production and export of organic matter and nutrients to the coastal ecosystem. In the case of the Wadden Sea the emphasis was more on its specific value in combination with the services to surrounding ecosystems. The Wadden Sea has an intrinsic relationship with the North Sea. The North Sea is one of the few shallow and relatively sheltered seas in the Northern Hemisphere with a relatively high production of fish. The combination of a large, shallow and highly productive sea combined with a system like the Wadden Sea is unique on a world scale (Wolff, 1983).

a) Primary and secondary production

One of the outstanding features of the Wadden Sea is that the in situ primary production is to a large extent the result of benthic production. In coastal zones in general, the phytoplankton production dominates, but the Wadden Sea is unique in its enormous surface area of emerging tidal flats that host high densities of microphytobenthos. The contribution of microphytobenthos to the primary production is about as high as the primary production by planktonic algae (Cadée & Hegeman, 1974a and b; Asmus et al., 1998). The gross primary production by microphytobenthos, which reaches values of over 1000 mgC m\(^{-2}\) d\(^{-1}\), is the highest in the world for locations north of 42° latitude (Maclntyre et al., 1996, Table 4). Next to the in situ production there is a large net import of algae produced in the coastal regions of the North Sea. Because of the abundant supply of algae, the secondary production is large, as well. The sandy and muddy bottoms host a variety of macrozoobenthic herbivores, which can reach locally high densities. Not only phytoplankton, but also benthic diatoms are an important food source for filterfeeding bivalves. Suspended microphytobenthos may represent up to
50% of the microalgae in the water column and thus of the food of filterfeeders (De Jonge, 1985, Fig. 7).

b) Biogenic structures and biogeomorphology
Due to the shallowness of the area and the fuzzy boundaries between land and sea, there is a strong interaction between biota and geomorphological processes, i.e. biogeomorphology (Baptist, 2005; Stallins, 2006).

The geomorphological influence on biota is in its most direct form the influence on habitats of flora and fauna. The Wadden Sea morphology and geomorphological processes therein define gradients between high and low, wet and dry and sedimentation and erosion. These gradients and the processes that cause them are determinative for gradients in grain size of the sediment, nutrient levels, organic matter levels and moisture. Plants and animals are tuned to specific conditions and will therefore be abundant in specific locations, i.e. there are habitats. In the coarse grained and dynamic sediments a large abundance of specific polychaete worms (*Scolelepis squamata*) occurs with densities of up to 300 grams/m². In the more sheltered parts the flats are abundant with worms and cockles. Mussel beds are recovering after closure of fisheries, and in dense beds of shellfish, biomass may reach values of more than 50 kg per m². Conversely, the biological influence on geomorphological processes is the influence of biota to create, maintain or transform their own geomorphological surroundings. This is demonstrated by the influence of vegetation on the hydraulic resistance, erodibility and sedimentation, or by the influence of fauna on sediment characteristics through bioturbation and biostabilization.

The Wadden Sea forms an outstanding example of biogeomorphological interactions (see Box). Important in this respect is that the Wadden Sea has many examples in which the timescale for geomorphological changes coincides with the timescale for biological changes. This results in mutually interacting processes. Unlike other areas in the world, landscape processes are not dominated by geological timescales nor do biological processes dominate landscape features. This means that the constantly changing landscape requires adaptation of organisms and at the same time that organisms affect their environment as ‘ecosystem engineers’. Excellent and broad scale examples of these biogeomorphological interactions can be found in the dunes, the tidal flats and the saltmarshes. Of particular interest are for example the intertidal mussel beds. These form a biogenic structure that has considerable influence on the morphology of the tidal flats; they stabilize the sediment, preventing it from erosion and actively accretes silt. The numerous macrobenthic species can have an opposite effect. Their constant reworking of the sediment (bioturbation) makes the bed more susceptible to erosion. Saltmarshes form another example in which the capturing of silt increases the bed level, which leads to changes in vegetation composition and subsequent changes in sedimentation rates.

The important ecosystem types in the Wadden Sea (ecotopes or habitats) are those which are formed and maintained by an interplay of physical and biological processes. This interplay is essentially an interaction of on-going geological processes in the development of landforms and on-going ecological and biological processes. This feature cannot be described under criterion viii or criterion ix separately.

**Biogeomorphology in the Wadden Sea**
Physical processes in the Wadden Sea and its estuaries, such as flow, tides and waves, are responsible for the mixing of the water column, the transport of sediment and the transport of nutrients and organisms. Sandy coasts with small tidal amplitude develop into a system of barrier-islands with intertidal flats between the islands and the mainland. The tidal currents together with wind and wave action are responsible for the maintenance of gullies and tidal flats. The Wadden Sea system is characterized by complete gully system. That means a tidal inlet, ebb and flood systems and main channels, which branch into small gullies and creeks in sandy or silty areas or salt marshes. Within the Wadden Sea system there is a diversity of tidal flats with sediment of different silt content and different exposure times.

Biological processes both respond to and affect pattern diversity, geomorphological processes and sediment characteristics. Typical structures of biogenic origin can develop
on the tidal flats, such as oyster and mussel beds, reefs of tube building polychaetes,
eelgrass fields, burrows and tubes of digging polychaetes or mats of microphytobenthos. Biogenic habitat transformations result (Reise, 2002). Reefs of suspension feeders increase bed roughness and actively filter suspended particles, accumulating these in the bed and leading to a raised and stabilized bed. Eelgrass meadows slow down flow, protect the bed from erosion and trap suspended particles, raising the bed. The reworking of the bed by infauna changes the sedimentary budget and composition, and making it more susceptible to erosion. Mats of microphytobenthos have a seasonal effect on bed height and silt content through excretion of polymeric substances gluing the bed particles together and thus making it more resistant to erosion. In quiet places under favourable conditions salt tolerant pioneer vegetation may develop on tidal flats. When the pioneer vegetation is succeeded by a vegetation of the next successional stage, the young, low-lying salt marsh will maintain itself by enhancing sedimentation. In a period with sea-level rise, the marsh will grow higher but if the tidal flat lags behind, cliff formation along the marsh occurs. Subsequently, the marsh will erode until new vegetation will develop on the bare gently sloping tidal flat.

All these biogeomorphological interactions can be found in and on the tidal flats of the Wadden Sea. The constantly changing conditions, the multitude of feedback systems and the very wide variety in scales make it a unique ecosystem.

Because the Wadden Sea contains many different types of islands, sheltered and exposed dunes and subsequent sheltered and exposed types of saltmarsh and green beaches there also is a great variety in vegetation types and communities. Many textbooks refer to the Wadden Sea as a strong example when describing different vegetation types. An excellent overview of vegetation types is found in Dijkema & Wolff (1983). Dijkema et al. (1984) investigated all saltmarshes along the European coasts and concluded that those bordering the Wadden Sea are of eminent importance because of their size and completeness.

Dense concentrations of animals, whether forming biogenic structures or not, may form specific communities. More than 125 years ago the community of an oyster reef in the Wadden Sea was described and the term ‘BIOCOENOSIS’ was introduced (Möbius, 1877). This term is now widely used in the ecological literature, and the present day mussel beds and oyster reefs can still be regarded as prime examples.

**Integrity and/or authenticity**

The Wadden Sea has sufficient size to contain a functional coherence of ecosystem elements. Morphodynamic processes have relative freedom to occur. Biological processes depending on, and affecting geomorphology can be found on many scale levels, from seasonal microphytobenthos mats gluing the sediment together to saltmarshes raising the sediment level and growing with sea level rise. Anthropogenic influences are well regulated, a set of ecotargets is internationally agreed on (Esbjerg declaration) and monitored to safeguard the integrity. Rehabilitation measures are being carried out, for example on mussel beds. Up to the seventies mussel beds covered extensive parts of the tidal flats, filtering the water above and producing faecal pellets that sink to the bed. As a result, these beds capture fine sediments and prevent erosion. Due to over fishing these beds have almost disappeared, but rehabilitation measures seem to work out well (Dankers et al., 2003, 2004., De Vlas et al., 2005).

The present status of the system is well described by Essink et al. (2005) in the most recent Quality Status Report (QSR), and possible threats are given by Nordheim et al (1996) and Ssyanck & Dankers (1996).

**Protection and management**

The protection status of the Wadden Sea is sufficient to keep the system in its present state, but more conservation efforts are required in order to reach a favorable conservation status as required by the EU- Bird and Habitat directives. These measures are laid down in many agreements and European and national legislation.
Comparative analysis
The Wadden Sea forms an outstanding example of biogeomorphological interactions on all scale levels. The features of shallow productive mud flats, strong benthic-pelagic coupling and interactions between biology and morphology can be found in other estuaries, but not on the scale and the completeness of the Wadden Sea. The closest resemblance has the Banc d’Arguin in Mauritania. Its total size is larger than the Wadden Sea (12,000 km²), but half of it is terrestrial and it has much less intertidal area (540 km²). Furthermore, it is located in an entirely different biogeographical region, it does not have barrier islands and has very sheltered regions. In fact, the comparative analysis in the nomination dossier of the Parc national du Banc d’Arguin does not even consider the Wadden Sea as a comparable area.

There is no similar area in northern latitudes to be found. The Ria Formosa is of a much smaller size, not containing similar dune and saltmarsh systems, while there also is a lack of very silty parts. The barrier systems of North/South Carolina and Georgia (US East coast) have similar geomorphological characteristics but are very different from an ecological point of view because the intertidal flats are covered with Spartina, while these in the Wadden Sea are bare or partly covered by sea grasses (Zostera sp.). The barrier systems of Louisiana can not be compared because they have such a small tidal range that the majority of the sandbanks are permanently covered by the sea.
3  Criterion x

“contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation”

The Wadden Sea is extremely rich in environmental gradients and transitional zones, yielding many different (micro)habitats. This forms the basis for exceptional species diversity. The saltmarshes host about 2,300 species of flora and fauna. The marine and brackish areas count even 2,500 species. As a result of the many different microhabitats, there is a high degree of ecological specialization.

a) Fish

The shallow environment of the Wadden Sea is of vital importance to the reproduction of many fish species (Berghahn, 1987). The Dutch Wadden Sea is used by 13 species that are hatched in the North Sea and use the Wadden Sea as nursery area, the Marine Juvenile species. An additional 17 species are Estuarine Resident; they live here during their entire life cycle. Furthermore, there are 10 species that use the Wadden Sea seasonally in search for food, 9 species that migrate through the Wadden Sea, 2 freshwater species and in total 45 marine visitors have been caught since 1960 (Hovenkamp & Van der Veer, 1993).

The Wadden Sea is, therefore, indispensable for a much wider area comprising large parts of the North Sea. Since there is an active exchange of fish between the North Sea and the Wadden Sea, population dynamics of North Sea fish species can drive ecological processes in the Wadden Sea.

The Wadden Sea is important to migratory fish. It gives an open connection between large rivers, such as Eems & Elbe, and the North Sea. The following fish species are (or were in case of the sturgeon) found in the Wadden Sea and are listed on the IUCN Red List:

<table>
<thead>
<tr>
<th>Species</th>
<th>Common name</th>
<th>IUCN Red List status</th>
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<tbody>
<tr>
<td>Acipenser sturio</td>
<td>Common sturgeon</td>
<td>CR A2d</td>
</tr>
<tr>
<td>Alosa alosa</td>
<td>Allis shad</td>
<td>DD</td>
</tr>
<tr>
<td>Alosa fallax</td>
<td>Twait shad</td>
<td>DD</td>
</tr>
<tr>
<td>Coregonus oxyrinchus</td>
<td>Houting</td>
<td>DD</td>
</tr>
<tr>
<td>Lampropterus fluviatilis</td>
<td>River lamprey</td>
<td>LR/nt</td>
</tr>
<tr>
<td>Raja clavata</td>
<td>Thornback skate</td>
<td>LR/nt</td>
</tr>
</tbody>
</table>

Restoration of smooth salinity gradients in open connections with (small) rivers might improve conditions for these migratory species.

b) Marine mammals

On top of the benthic and pelagic food chain, marine mammals depend on the large productivity of the Wadden Sea. Four species are inhabitants of the Wadden Sea: Harbour seal (or Common seal), Grey seal, Harbour porpoise and Bottlenose dolphin.

Harbour seals in Europe belong to a distinct sub-species (Phoca vitulina vitulina) which is found mainly in UK, Icelandic, Norwegian and Wadden Sea waters. The international Wadden Sea holds approximately 20% of the world-population (some 20,000 individuals). Samples from seals in Northern Ireland, the west and east coasts of Scotland, the east coast of England, the Dutch and German Wadden Sea, the Kattegat/Skagerrak, Norway, the Baltic Sea and Iceland have been subjected to genetic analysis. This analysis suggested that there are genetically distinct common seal populations in European waters (Goodman, 1998). There is probably very little movement of breeding animals between these populations.

A unique feature of the Wadden Sea Harbour seals is that they rely on the Wadden Sea tidal sandflats for resting. Their resting habitat disappears during high tide and therefore, their behaviour is completely adapted to these conditions. There’s one other location
where this is found, The Wash (UK), however an insignificant number of seals are situated here. All other Harbour seal habitats consist of rocky shores.

Grey seals (*Halichoerus grypus*) are found across the North Atlantic Ocean and in the Baltic Sea. There are three regional populations. One in the Northwestern Atlantic; in Canada, on Nova Scotia and the Gulf of StLawrence, one in the Northeastern Atlantic; Iceland, UK, Wadden Sea, and a Baltic population.

The number of Grey seals in the Wadden Sea is steadily increasing. In 2006, a number of 1786 animals have been observed in the Dutch Wadden Sea (Reijnders, pers. comm.). This is however, a small percentage compared to the number of Grey seals in British waters, which counts approximately 120,000 individuals.

Harbour Porpoise (*Phocoena phocoena*) is a typical coastal species. It is mainly found in a wide area of the North Atlantic (including North Sea) and North Pacific. The most important calving and nursing site of the central North Sea is off the coast of the Wadden islands Sylt and Amrun (Sonntag et al., 1999). The Wadden Sea itself is not essential to the survival of this species, but is extensively used around March, when Harbour porpoise hunts for adult Herring that enters the Wadden Sea (Leopold, pers. comm.). The numbers of sightings along the Dutch coast are increasing significantly from 2000 onwards and porpoises are regularly observed in the Wadden Sea (Camphuysen & Peet, 2006).

<table>
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<th>Species</th>
<th>Common name</th>
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<tbody>
<tr>
<td><em>Phocoena phocoena</em></td>
<td>Harbour porpoise</td>
<td>VU A1cd</td>
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Bottlenose dolphin (*Tursiops truncates*) is a typical coastal species as well. They reside along the southern North Sea coasts and were frequent visitors of the Wadden Sea until the Zuiderzee was closed off (1932). In recent years their presence is infrequent, although in 2004 large groups (tens to hundreds) were seen entering and leaving the Wadden Sea through the Marsdiep at Texel (Camphuysen & Peet, 2006).

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<th>IUCN Red List status</th>
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<tr>
<td><em>Tursiops truncates</em></td>
<td>Bottlenose dolphin</td>
<td>DD</td>
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c) Migratory birds

The value of the Wadden Sea to migratory birds is eminent. A maximum of some 6.1 million birds are present in the international Wadden Sea *at the same time* (Blew & Südeck, 2005). Each year on average 10 to 12 million birds migrate back and forth between their breeding grounds in Siberia, Scandinavia, Greenland and North-East Canada and their wintering grounds in Europe and Africa. These birds use the Wadden Sea for a short stay, as a major stop-over site for refueling or as a wintering area (Meltofte et al., 1994).
Figure 4. Important areas for waders along the East-Atlantic flyway. (1) Wadden Sea (2) Banc d’Arguin, Mauritania, (3) Bijagos Archipelago, Guinea-Bissau, (4) French tidal flats, (5) UK estuaries.

Fig. 4 shows the important areas for waders along the East-Atlantic flyway. The southernmost area that is important for waders is the Bijagos Archipelago in Guinea-Bissau. This is an estuarine area with tidal flats and mangroves, covering 1570 km$^2$ (Zwarts, 1988). More to the north lies the Banc d’Arguin in Mauritania. This has a rather small intertidal area of approximately 535 km$^2$, including sebkhas and small areas covered with Spartina and mangroves (Hagemeijer & Smit, 2004). This is considerably smaller than the Wadden Sea, which has a total size of 9,500 km$^2$ of which 4,534 km$^2$ consists of intertidal flats (Meltofte et al. 2004). The Banc d’Arguin is the most important wintering ground and most birds that migrate to their breeding grounds up north make a stop-over in the Wadden Sea, especially those breeding in Scandinavia and on the Siberian tundras. The Wadden Sea itself is an irreplaceable stop-over on the migratory flyway. Apart from the Wadden Sea, various small Moroccan, Portuguese and French tidal flats may serve a role as “pit stop”, especially during unfavourable weather conditions (northern wind) and so does the southwest of the Netherlands, but these are of insufficient size to host the whole population for an extended period of time (Smit & Piersma, 1989, Reneerkens et al., 2005).

The importance for migrating birds is of outstanding universal value from the point of view of conservation. For at least 52 geographically distinct populations of 41 bird species, more than 1% of the biogeographical population occur in the Wadden Sea. All in all, this means that a very special international responsibility of the Wadden Sea has to be stated for these populations and species (Meltofte et al., 1994; Rasmussen et al., 1996).
Meltofte et al. (1994) give an excellent overview of the international importance\(^1\) of the Wadden Sea for birds:

**Gulls and terns**
Among gulls and terns, the Wadden Sea is of international importance for at least nine populations. Most of these also breed in internationally important numbers.

**Ducks and geese**
An estimated 2.0-2.5 million ducks and geese visit the Wadden Sea during the year. For 11 populations of waterfowl the area is of international importance. Almost the entire population of “Russian” Barnacle Goose *Branta leucopsis* and Dark-bellied Brent Goose *Branta b. bernicla* use the Wadden Sea. Largest waterfowl numbers occur in late autumn, when more than 1 million are regularly present. Wigeon *Anas penelope*, Shelduck *Tadorna tadorna* and Eider *Somateria mollissima* are most numerous. For the two latter species, the Wadden Sea is the most important moulting area for the north European populations.

**Waders**
An estimated 6-7 million waders visit the Wadden Sea each year. For about 30 populations of West Palearctic and Nearctic waders (20 species of coastal as well as inland waders) the area is of international importance, and in 12 of these more than half of the population occurs in the Wadden Sea. Almost the entire flyway populations of Grey Plover *Pluvialis squatarola*, Siberian Knot *Calidris c. canutus*, West Palearctic Dunlin *Calidris a. alpina* and Bar-tailed Godwit *Limosa lapponnica* visit the area each year.

Almost the entire population of the Dark-bellied Brent Goose and the entire North-European population of Dunlin use the Wadden Sea during several periods of their annual cycle (Blew & Südbeck, 2005). In addition, the Wadden Sea and the coastal zone of the adjacent North Sea are used by high numbers of moulting and feeding common eider and support the entire Northwest-European population of Common Shelduck during moult in summer. Without the Wadden Sea their populations would suffer heavily.

Moreover, for in total 34 species, the nutritious tidal flats and salt marshes are an *indispensable* stopping place on their migration route, or form their primary wintering or moulting habitat. Therefore the Wadden Sea can be considered essential for the existence of these species. A severe deterioration of the Wadden Sea implies a biodiversity loss on a world-wide scale. This applies primarily for the following 34 species (Blew & Südbeck, 2005):

1. Great Cormorant
2. Eurasian Spoonbill
3. Dark-bellied Brent Goose
4. Barnacle Goose
5. Common Shelduck
6. Eurasian Wigeon
7. Common Teal
8. Mallard
9. Northern Pintail
10. Northern Shoveler
11. Common Eider
12. Eurasian Oystercatcher
13. Pied Avocet
14. Great Ringed Plover
15. Kentish Plover
16. Eurasian Golden Plover
17. Grey Plover
18. Northern Lapwing
19. Red Knot
20. Sanderling
21. Curlew Sandpiper
22. Dunlin
23. Ruff
24. Whimbrel
25. Bar-tailed Godwit
26. Eurasian Curlew
27. Spotted Redshank
28. Common Redshank
29. Common Greenshank
30. Ruddy Turnstone
31. Black-headed Gull
32. Common Gull
33. Herring Gull
34. Great Black-backed Gull

\(^1\) An area is considered internationally important when more than 1% of a biogeographical population frequently is present in that area. The term internationally important originates from the Ramsar Convention and has been widely used since then in many international agreements and publications.
d) Breeding birds

21 breeding bird species occur in the Wadden Sea at internationally important levels (at least 1% of the NW-European population). Many of these species (9) are also included in Annex I of the EC Birds Directive and deserve as such special protection. Another four species breed in rather low numbers in the Wadden Sea, but are included in Annex I as well (Ruff *Philomachus pugnax*, Little Gull *Larus minutus*, Mediterranean Gull *Larus melanocephalus* and Short-eared Owl *Asio flammeus*). In an international context, the Wadden Sea is a core breeding area for Eurasian Spoonbill, Avocet, Gull-billed Tern and Sandwich Tern. For each of these species more than 25% of the NW-European population breeds in the Wadden Sea area (Koffijberg et al., 2006), Figure 6.

One of the breeding birds, the Black-tailed godwit, is found on the IUCN Red List. It has 4% of the NW-European population in the Wadden Sea, mainly the Dutch part.

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<th>Species</th>
<th>Common name</th>
<th>IUCN Red List status</th>
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<tr>
<td><em>Limosa limosa</em></td>
<td>Black-tailed Godwit</td>
<td>NT</td>
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</table>

Figure 5. Maximum estimated numbers of migratory birds between 1992-2000 given as proportion of flyway populations (Wetlands International, 2002) for the entire Wadden Sea. From: Blew & Südbeck (2005).
Integrity and/or authenticity

Although bird migration is a global natural phenomenon that cannot be associated to a single site, the Wadden Sea is a vital and irreplaceable stepping stone that is considered a critically important 'mega-site' for bird migration. It is not just one of several stopover sites on the East-Atlantic flyway, but it is the essential stopover.

Because of the size, the length and the different conservation regimes most of the natural ecotopes of a barrier island saltmarsh and tidal flat system still exist. Especially the mutual dependency of ecotopes and completeness of an entire system can be found in the Wadden Sea. The quality of the area for migrating birds also is partly the result of the large size, which makes it easier to flee to other parts of the area when locally the conditions are less optimal.

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Protection and management

The protection status of the Wadden Sea is laid down in many agreements and European and national legislation.

Comparative analysis

The Wadden Sea belongs to the largest wadden areas in the world. Although wadden areas occur in more locations around the world (Fig. 6), most of them have a distinctly different character.

The international Wadden Sea is, with 490,000 ha of tidal flats, by far the largest of Europe. It is 16 times larger than the second largest (Morecambe Bay, UK, 33,700 ha). Its area is even one and a half times larger than all the intertidal areas in the 155 British estuaries together. Apart from Morecambe Bay, the larger ones are the Wash (29,800 ha), the Solway Firth (24,600 ha), the Severn (16,900 ha), the Dee (13,000 ha), the Humber (13,500 ha) and the Thames (totalling 25,500 ha of smaller areas). Other large wadden areas in more or less temperate regions can be found along the East coast of Canada (Bay of Fundy, Hudson Bay), in Alaska (Copper River Delta), in East Asia (Yellow Sea), and West Asia (Persian Gulf). In tropical regions large areas are found in West-Africa (Guinea Bissau and Mauritania), South-East Asia (China, Vietnam and Irian Jaya), Northwest Australia and in Suriname (Van de Kam et al., 1999).

The Wadden Sea climate cannot be compared to those in tropical or arctic regions. Apart from that, the character of the Wadden Sea, having a tidal flat and barrier-island system, is of outstanding universal value.
4 References


Justification

This report, commissioned by: Ministry of Agriculture, Nature and Food Quality
Direction Regional Affairs, location North
P.O. Box
9700 RM Groningen

project number: 439.62105.01

has been produced with great care. The scientific quality has been peer-reviewed by Prof. Dr. Karsten Reise, Alfred Wegener Institute, Germany and assessed by or on behalf of the Scientific Board of Wageningen IMARES.

Dr. H.J. Lindeboom

Signature: __________________________

Date: 27 March 2007
Annex 03

A Comparative Analysis of the Wadden Sea for the Nomination on the World Heritage list
A comparative analysis of the Wadden Sea for the nomination on the World Heritage list

M.J. Baptist, N. Dankers & C. Smit

Report C139/07

Institute for Marine Resources and Ecosystem Studies

Wageningen IMARES

Location Texel

Client: LNV DRZ-noord
       Postbus 30032
       9700 RM Groningen

Publication Date: January 2008
Annex 03 A Comparative Analysis

• Wageningen IMARES conducts research providing knowledge necessary for the protection, harvest and usage of marine and coastal areas.
• Wageningen IMARES is a knowledge and research partner for governmental authorities, private industry and social organisations for which marine habitat and resources are of interest.
• Wageningen IMARES provides strategic and applied ecological investigation related to ecological and economic developments.

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Photo cover by M.J. Baptist

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Quality Assurance

IMARES utilises an ISO 9001:2000 certified quality management system (certificate number: 08602-2004-AQ-ROT-RvA). This certificate is valid until 15 December 2009. The organisation has been certified since 27 February 2001. The certification was issued by DNV Certification B.V. The last certification inspection was held the 16-22 of May 2007. Furthermore, the chemical laboratory of the Environmental Division has NEN-AND-ISO/IEC 17025:2000 accreditation for test laboratories with number L097. This accreditation is valid until 27 March 2009 and was first issued on 27 March 1997. Accreditation was granted by the Council for Accreditation, with the last inspection being held on the 12th of June 2007.
1. Introduction

The format for the nomination of properties for inscription in the World Heritage List requires a comparative analysis (including state of conservation of similar properties) of the similar sites, whether on the World Heritage List or not. The comparison should outline the similarities the nominated property has with other properties and the reasons that make the nominated property stand out. The comparative analysis should aim to explain the importance of the nominated property both in its national and international context.

The objective is: a comparative table in which the Wadden Sea area to be nominated for inscription on the World Heritage List is compared with similar areas in the world, listed and non-listed.

2. Approach

2.1. Listed sites

As a first step in the comparison analysis, the currently 31 listed World Heritage sites with significant marine components and the 24 World Heritage coastal island sites with no (or insignificant) marine areas have been selected for further analysis. As a second step, sites have been selected that that host a high biodiversity and/or waterfowl and migratory birds. This results in 9 World Heritage sites, namely Galapagos National Park and Marine Reserve, Everglades National Park, Great Barrier Reef, Doñana National Park, The Sundarbans, Banc d’Arguin National Park, Fraser Island, Whale Sanctuary of El Vizcaíno and Greater St. Lucia Wetland Park.

Table 1: Preselected World Heritage sites, sizes and major biophysical setting.

<table>
<thead>
<tr>
<th>World Heritage Site</th>
<th>Size (km²)</th>
<th>Biophysical setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galapagos National Park and Marine Reserve</td>
<td>7,665</td>
<td>Volcanic archipelago and ocean</td>
</tr>
<tr>
<td>Everglades National Park</td>
<td>5,929</td>
<td>Freshwater and coastal marshes, mangrove swamps</td>
</tr>
<tr>
<td>Great Barrier Reef</td>
<td>348,700</td>
<td>Coral reef system and ocean</td>
</tr>
<tr>
<td>Doñana National Park</td>
<td>507</td>
<td>Coastal marshlands and dunes</td>
</tr>
<tr>
<td>Sundarbans (Bangladesh &amp; India)</td>
<td>7,280</td>
<td>Deltaic islands, waterways, intertidal area with extensive mangrove cover</td>
</tr>
<tr>
<td>Banc d’Arguin National Park</td>
<td>12,000</td>
<td>Mudflats, dunes, islands</td>
</tr>
<tr>
<td>Fraser Island</td>
<td>1,663</td>
<td>Sand island</td>
</tr>
<tr>
<td>Whale Sanctuary of El Vizcaíno</td>
<td>3,710</td>
<td>Lagoons with some mangrove and seagrass</td>
</tr>
<tr>
<td>Greater St. Lucia Wetland Park</td>
<td>2,396</td>
<td>Coastal lakes, dunes and continental shelf</td>
</tr>
</tbody>
</table>

Firstly, it must be noted that all nine properties are located in a different biogeographical region than the Wadden Sea. The only European property is Doñana. The Doñana is located along the borders of the North-east Atlantic Ocean Region, whereas the Wadden Sea is located in the North Sea Region (EEA, 2002).

Secondly, many of the listed properties contain islands. The Galapagos are volcanic islands in an ocean surrounding, the Great Barrier reef has many coral islands, Fraser Island is an enormous sandy island, the Sundarbans consist of deltaic islands, Banc d’Arguin contains (partly rocky) islands and Florida Bay, which covers about 1800 km² of the Everglades National Park, contains hundreds of mangrove covered islands. However, the characteristics of these islands differ markedly from that of the Wadden islands.

Thirdly, and more important for the comparison with the Wadden Sea, the properties Sundarbans, Everglades (i.e., Florida Bay), Doñana and Banc d’Arguin contain intertidal flats within the property. The Wadden Sea is characterised by **extensive contiguous sand flats and mud flats**. The Sundarbans contain plots of mudflats mainly in the lee side of dunes, Florida Bay is a shallow lagoon...
with mudflats fringing the mangrove covered islands, Doñana has a relatively small proportion of mudflats on the inner side along the banks of the Guadalquivir River, Greater St. Lucia has hardly any intertidal area and El Vizcaíno has some intertidal area covered with mangrove and seagrass.

The only World Heritage property that has extensive mudflats and with which the Wadden Sea can be compared, is the **Banc d’Arguin National Park** in Mauritania. Approximately 630 km² consists of intertidal mudflats (Hughes & Hughes, 1992). This is considerably smaller than the Wadden Sea, which has 4,534 km² of bare intertidal areas (Meltofte et al., 2004). Moreover, the Banc d’Arguin is of great importance for Palearctic migrating birds, as is the Wadden Sea. However, the Banc d’Arguin is located in a different biogeographical region and does not have barrier islands. In fact, the comparative analysis in the nomination dossier of the Parc national du Banc d’Arguin does not even consider the Wadden Sea as a comparable site. In their dossier a comparison is made with other areas with a combination of hot desert and coastal features.

### 2.2. Non-listed sites

The non-listed sites have been selected from various sources, in particular the overview by Deppe (2000). This overview is based on a broad number of sources (e.g. Ramsar Wetlands of International Importance, National Parks, Special Protected Areas, Wildlife Reserves).

Deppe (2000) described and compared 350 intertidal mudflat sites worldwide. Intertidal mudflat coasts may result from various geological and present day processes. At low tidal ranges lagoon-type mudflats may develop, at macrotidal ranges intertidal areas attached to the coast may develop, and many estuaries, bays and deltas contain mudflats.

**Selection criteria**

To be comparable to the Wadden Sea, which has over 4500 km² of intertidal mudflats, a **size criterion** of a minimum of 300 km² is applied to the long-list of 350 mudflat sites. This results in a total of 44 sites that qualify, Table 2.
Table 2: Mudflat sites in the world larger than 300 km² (in many cases the total size of the site is given, this is usually larger than the size of the intertidal flats).

<table>
<thead>
<tr>
<th>Site</th>
<th>Size (km²)</th>
<th>Coordinates</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aqajarua-Sllorsuaq (Greenland)</td>
<td>300</td>
<td>69°40’N 52°00’W</td>
<td>Estuary</td>
</tr>
<tr>
<td>Qinnguata Marra-Kuussuaq (Greenland)</td>
<td>6000</td>
<td>69°56’N 54°17’W</td>
<td>Estuary</td>
</tr>
<tr>
<td>Baie du Mont Saint-Michel (France)</td>
<td>6200</td>
<td>48°40’N 01°40’W</td>
<td>Bay &amp; estuary</td>
</tr>
<tr>
<td>Oosterschelde (Netherlands)</td>
<td>3800</td>
<td>51°30’N 04°10’E</td>
<td>Estuary</td>
</tr>
<tr>
<td>Kandalaksja Bay (Russia)</td>
<td>20800</td>
<td>65°N 35°E</td>
<td>Bays &amp; estuaries</td>
</tr>
<tr>
<td>Karaginsky Island (Russia)</td>
<td>1936</td>
<td>58°45’N 163°42’E</td>
<td>Estuaries &amp; open flats</td>
</tr>
<tr>
<td>Morecambe Bay (UK)</td>
<td>359</td>
<td>54°07’N 02°57’W</td>
<td>Bay &amp; deltaic barrier</td>
</tr>
<tr>
<td>The Wash (UK)</td>
<td>622</td>
<td>52°56’N 00°17’E</td>
<td>Bay &amp; estuary</td>
</tr>
<tr>
<td>Upper Solway Flats &amp; Marshes (UK)</td>
<td>307</td>
<td>54°54’N 03°25’W</td>
<td>Estuary</td>
</tr>
<tr>
<td>Archipelago dos Bijagos (Guinea-Bissau)</td>
<td>15700</td>
<td>12°20’N 16°00’W</td>
<td>Island coast &amp; estuaries</td>
</tr>
<tr>
<td>St. Lucia (South-Africa)</td>
<td>1555</td>
<td>28°00’S 32°28’E</td>
<td>Estuary</td>
</tr>
<tr>
<td>Bahia Blanca (Argentina)</td>
<td>3000</td>
<td>38°50’S 62°00’W</td>
<td>Bay &amp; estuary</td>
</tr>
<tr>
<td>Bahia de Samborombon (Argentina)</td>
<td>2440</td>
<td>35°47’S 57°50’W</td>
<td>Estuary</td>
</tr>
<tr>
<td>San Antonio Oeste Rio Negro (Argentina)</td>
<td>350</td>
<td>64°55’S 40°45’W</td>
<td>Bay</td>
</tr>
<tr>
<td>Dewey Soper (Canada)</td>
<td>8159</td>
<td>66°10’N 74°00’W</td>
<td>Open flats</td>
</tr>
<tr>
<td>Hudson Bay (Canada)</td>
<td>24087</td>
<td>52°30’N 84°30’W</td>
<td>Bay, estuaries &amp; open flats</td>
</tr>
<tr>
<td>Queen Maud Gulf (Canada)</td>
<td>62782</td>
<td>67°00’N 102°00’W</td>
<td>Bay, estuaries &amp; open flats</td>
</tr>
<tr>
<td>Bay of Fundy (Canada)</td>
<td>620</td>
<td>45°30’N 64°20’W</td>
<td>Bay &amp; estuaries</td>
</tr>
<tr>
<td>Bigi Pan (Suriname)</td>
<td>683</td>
<td>05°55’N 56°45’W</td>
<td>Estuary &amp; open flats</td>
</tr>
<tr>
<td>Wia Wia (Suriname)</td>
<td>900</td>
<td>05°56’N 54°55’W</td>
<td>Estuary &amp; open flats</td>
</tr>
<tr>
<td>Chesapeake Bay (USA)</td>
<td>450</td>
<td>38°00’N 76°20’W</td>
<td>Bay &amp; estuaries</td>
</tr>
<tr>
<td>Delaware Bay (USA)</td>
<td>512</td>
<td>39°11’N 75°14’W</td>
<td>Bay &amp; estuaries</td>
</tr>
<tr>
<td>Georgia Bight (USA)</td>
<td>8000</td>
<td>32°17’N 80°35’W</td>
<td>Barrier islands &amp; estuaries</td>
</tr>
<tr>
<td>Copper River Delta (USA)</td>
<td>1513</td>
<td>60°30’N 145°00’W</td>
<td>Deltaic barrier &amp; estuaries</td>
</tr>
<tr>
<td>Delta del Rio Colorado (Mexico)</td>
<td>2500</td>
<td>31°50’N 114°59’W</td>
<td>Estuary</td>
</tr>
<tr>
<td>Khurans Straits (Iran)</td>
<td>1000</td>
<td>26°45’N 55°40’E</td>
<td>Estuary &amp; deltaic barrier</td>
</tr>
<tr>
<td>Khor-al Amaya &amp; Khor Musa (Iran)</td>
<td>4000</td>
<td>30°30’N 48°45’E</td>
<td>Estuaries &amp; deltaic barriers</td>
</tr>
<tr>
<td>Kuwait Bay (Kuwait)</td>
<td>2000</td>
<td>29°20’N 48°00’E</td>
<td>Bay</td>
</tr>
<tr>
<td>Ras Al Khaymas (UAE)</td>
<td>3000</td>
<td>24°50’N 53°00’E</td>
<td>Barrier beach ridges</td>
</tr>
<tr>
<td>Gulf of Kambhat (India)</td>
<td>2500</td>
<td>21°50’N 72°23’E</td>
<td>Estuary</td>
</tr>
<tr>
<td>Korea Bay (China)</td>
<td>757</td>
<td>39°50’N 124°00’E</td>
<td>Estuary &amp; bay</td>
</tr>
<tr>
<td>Liaodong Wan (China)</td>
<td>1247</td>
<td>40°00’N 121°50’E</td>
<td>Bay</td>
</tr>
<tr>
<td>Yellow river delta (China)</td>
<td>3712</td>
<td>37°50’N 118°50’E</td>
<td>Estuary</td>
</tr>
<tr>
<td>Korea Bay (North Korea)</td>
<td>1340</td>
<td>39°00’N 125°00’E</td>
<td>Estuary &amp; bay</td>
</tr>
<tr>
<td>Yellow Sea coast (North Korea)</td>
<td>932</td>
<td>37°50’N 126°00’E</td>
<td>Estuaries &amp; deltaic barriers</td>
</tr>
<tr>
<td>Yellow Sea coast (South Korea)</td>
<td>2900</td>
<td>36°00’N 127°00’E</td>
<td>Estuaries &amp; deltaic barriers</td>
</tr>
<tr>
<td>Gulf of Thailand (Thailand)</td>
<td>400</td>
<td>13°20’N 100°25’E</td>
<td>Estuary &amp; bay</td>
</tr>
<tr>
<td>Bowling Green Bay (Australia)</td>
<td>355</td>
<td>19°27’S 147°15’E</td>
<td>Estuary &amp; bay</td>
</tr>
<tr>
<td>Corner Inlet (Australia)</td>
<td>672</td>
<td>38°45’S 146°32’E</td>
<td>Estuary &amp; deltaic barriers</td>
</tr>
<tr>
<td>Eighty-mile Beach (Australia)</td>
<td>1250</td>
<td>19°29’S 120°35’E</td>
<td>Estuary &amp; bays</td>
</tr>
<tr>
<td>Moreton Bay (Australia)</td>
<td>1133</td>
<td>27°20’S 153°10’E</td>
<td>Estuary &amp; deltaic barriers</td>
</tr>
<tr>
<td>Roebuck Bay (Australia)</td>
<td>550</td>
<td>18°07’S 122°16’E</td>
<td>Bay</td>
</tr>
<tr>
<td>Shoalwater &amp; Corio Bays (Australia)</td>
<td>2391</td>
<td>22°40’S 150°17’E</td>
<td>Estuaries &amp; bay</td>
</tr>
<tr>
<td>Western Port (Australia)</td>
<td>593</td>
<td>38°22’S 145°17’E</td>
<td>Estuaries &amp; deltaic barriers</td>
</tr>
</tbody>
</table>

The Wadden Sea mudflats are characterised by their location in tidal inlets of barrier islands. They contain a sequence of large and small ebb and flood gullies and their energy gradients follow from the morphology. The Wadden Sea (geological name: German Bight) is a mesotidal barrier island system that only has minor river influences fringing the flat and low-lying coastal plain. Most of the mudflat systems in the world are connected to estuaries and bays. Some are connected with barrier islands that are closely related to rivers and their deltas, such as the Mississippi delta. Only 5% of these deltaic barrier islands are found in North America and Europe, due to differing sea level rise history (Stutz & Pilkey, 2002). In North America and Europe, therefore, the barrier islands have a different geological origin. A second criterion, therefore, is the presence of barrier islands that do not have a river delta origin.
Of all sites larger than 300 km² this results in one comparable area: The **Georgia Bight**. The Georgia Bight (also named South Atlantic Bight) extends for a distance of 1200 km between Cape Hatteras in North Carolina to Cape Canaveral in Florida. Both the German Bight and the Georgia Bight are mesotidal barrier coasts that fall within the mixed energy / tide-dominated classification and both have a coastal development affected by Holocene sea level rise.

Comparing to non-listed areas, in the European context the Wadden Sea is unique in every respect in the European context. The Ria Formosa is a barrier island system and lagoon, but is a lot smaller (160 km²) and does not contain the complex system of habitats and biotopes as the Wadden Sea. Morecambe Bay and The Wash have large mudflat areas, but are coastal bays, not barrier island coasts and they lack the specific morphological setting.

Other intertidal areas world-wide in the temperate region do not compare to the Wadden Sea. The Yellow Sea coast of China and Korea has a comparable mudflat size. However, there are no barrier islands like the Wadden Sea, the biophysical and biological features are different and the area is located on a different flyway. The Bay of Fundy and Delaware Bay and Chesapeake Bay for instance, have large mudflat areas, but have a very different morphological setting. Other areas are often located in different climate zones, but more important, do not have the non-deltaic barrier coast.

### 3. Comparison

Table 3 presents the comparison of the Wadden Sea with the two most similar areas. The Banc d’Arguin is comparable to the Wadden Sea for its function in the East Atlantic Flyway. Moreover, both areas are indispensable for the survival of millions of migrating birds and are thus linked over a distance of more than 4000 km. Apart from this, the Banc d’Arguin is situated in a different climate, has a very different morphological genesis and morphology and has a significantly smaller mudflat area, which is for the majority covered by seagrass.

The most important (and major) difference between the Georgia Bight system and the Wadden Sea is that the Wadden Sea has open intertidal flats fringed by salt marshes, whereas the tidal basins along the Georgia Bight comprise tidal channels, narrow intertidal flats fringing the channels, and huge expanses of *Spartina* marsh which occupy what would otherwise have been open intertidal flats. The reasoning why *Spartina* has managed to encroach upon the former tidal flats is the large supply of mud (grain sizes <0.063 mm) to the coast by the local rivers. As a consequence, vertical accretion along the fringes of the marsh was so rapid that *Spartina* was able to occupy almost the entire intertidal area. The Georgia Bight tidal system thus looks very different from the Wadden Sea and also differs substantially in its ecology. A major difference to the Wadden Sea with a dominance of bare mudflats is a prevalence of the saltmarsh habitat while mudflats are marginal. At first glance, both systems are quite similar in their primary production. It should be noted, however, that the Wadden Sea is located between 52° 53’ N – 54° 53’ N, whereas the Georgia Bight is located between 28° 28’ N - 35° 13’ N, and receives considerably more light.

### 4. Conclusion

The Wadden Sea is to be regarded as of outstanding and unique universal value compared to similar areas world-wide.
Table 3: Comparison of Wadden Sea with Banc d’Arguin and Georgia Bight.

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>Wadden Sea (maps in nomination dossier)</th>
<th>Banc d’Arguin (map below)</th>
<th>Georgia Bight (map below)</th>
</tr>
</thead>
<tbody>
<tr>
<td>designation WH</td>
<td>to be nominated</td>
<td>1989</td>
<td>not WH</td>
</tr>
<tr>
<td>country</td>
<td>Germany / Netherlands</td>
<td>Mauritania</td>
<td>USA</td>
</tr>
<tr>
<td>climate zone</td>
<td>temperate</td>
<td>continental, arid subtropics, dry</td>
<td>temperate</td>
</tr>
<tr>
<td>description setting</td>
<td>mixed energy to tide-dominated mesotidal barrier coast (not deltaic)</td>
<td>back barrier islands and open mud flats, relic of former deltas</td>
<td>mixed energy to tide-dominated mesotidal barrier coast (not deltaic)</td>
</tr>
<tr>
<td>total area</td>
<td>10,000 km²</td>
<td>12,000 km² (50% marine)</td>
<td>8,000 km²</td>
</tr>
<tr>
<td>mudflat area</td>
<td>4,500 km²</td>
<td>630 km²</td>
<td>300 km²</td>
</tr>
<tr>
<td>tidal differences / range</td>
<td>1.5 – 3.5 m</td>
<td>2.1 m</td>
<td>0.8 – 2.5 m</td>
</tr>
<tr>
<td>mean wave height / range</td>
<td>1.0 – 2.0 m</td>
<td>1.4 m</td>
<td>0.6 – 1.0 m</td>
</tr>
<tr>
<td>contiguous character</td>
<td>large and contiguous area of intertidal habitats</td>
<td>contiguous between Cap Timiris and Pointe Minou, isolated section at Cap Blanc</td>
<td>not a contiguous intertidal system</td>
</tr>
<tr>
<td>habitats, biotopes</td>
<td>complex mosaic of bare intertidal flats fringed by saltmarshes, tidal channels, seagrass meadows, mussel beds</td>
<td>sand dunes, coastal swamps, small islands, intertidal areas with 80% seagrass cover</td>
<td>tidal channels with narrow band of bare intertidal flat. Intertidal almost completely covered by Spartina and Juncus saltmarshes</td>
</tr>
<tr>
<td>salt marshes km²</td>
<td>310 km²</td>
<td>591 km²</td>
<td>4,237 km²</td>
</tr>
<tr>
<td>mangroves km²</td>
<td>none</td>
<td>31 km² mangrove Avicennia africana</td>
<td>some mangrove Avicennia germinans</td>
</tr>
<tr>
<td>major estuaries</td>
<td>5 estuaries</td>
<td>0 estuaries</td>
<td>13 estuaries</td>
</tr>
<tr>
<td>migrating birds</td>
<td>6.1 million present at the same time; on average 10 to 12 million each year; East Atlantic Flyway</td>
<td>2.1 million over-wintering birds (106 species) East Atlantic Flyway</td>
<td>Important stop-over for millions of migrating birds West Atlantic Flyway</td>
</tr>
<tr>
<td>productivity</td>
<td>Primary production (gC/m²/y): phytoplankton 100-200 microphytes 150 seagrass 500 macrophytes 500-1000</td>
<td>Primary production (gC/m²/d): phytoplankton 2.1-8.9</td>
<td>Primary production (gC/m²/y): phytoplankton 200-400 microphytes 60 seagrass 150-700 macrophytes 800-2000</td>
</tr>
<tr>
<td>State of conservation</td>
<td>Ramsar site, PSSA by the IMO, MAB by UNESCO, EU Natura 2000, EU WFD, contracting party of African-Eurasian Waterbird Agreement (AEWA)</td>
<td>Ramsar site, National Park, has Fondation Internationale du Banc d’Arguin (FIBA) as management authority, not contracting party of AEWA</td>
<td>Not contiguously protected. Two Western Hemisphere Shorebird Reserves, Carolinian-South Atlantic MAB, no Ramsar sites, no PSSA.</td>
</tr>
</tbody>
</table>
Overview maps of National Park **Banc d’Arguin**
(source: http://effectivempa.noaa.gov/images/maps/bancdarguin_map_lg.jpg) and **Georgia Bight**
(source: www.dnr.sc.gov/marine/sertc/index.html)

**References**


Annex 03 A Comparative Analysis


Particularly Sensitive Sea Areas (PSSA), http://www.imo.org/.


Referees and Authors

Report C139/07
Project Number: 439.62118.01


This report has been professionally prepared by Wageningen IMARES. The scientific quality has been peer-reviewed by Jens Enemark of the International Wadden Sea Secretariat, Germany and assessed by or on behalf of the Scientific Board of Wageningen IMARES.

Approved: dr. H. Lindeboom
Scientific Director

Signature:

Date: 7. January 2008

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Number of appendix attachments: 0
Annex 04

List of Wadden Sea fish species

55/390
List of Wadden Sea fish species

compiled by Ralf Vorberg

Main tasks of the TMAP ad-hoc working group fish are the development of targets and assessment tools for trilateral Wadden Sea fish. A possible target could be "presence of a typical Wadden Sea fish fauna". As a provisional assessment tool a priority list of Wadden Sea fish species was defined, using data from the existing demersal and pelagic fish surveys. Another tool could be the definition of a range for species composition and/or species abundances. For this purposes a comprehensive compilation of fish species occurring in the Wadden Sea turned out to be useful.

Information derived from running monitoring programmes as the 30-year data sets of the demersal (young) fish survey, DFS and DYFS as listed in table, in the Netherlands and Germany and of the stow net fishery in Schleswig-Holstein, Lower Saxony and from the river Elbe. In addition species lists from the literature were used (Zijlstra et al., 1979; Fricke et al., 1994; Vorberg & Breckling, 1999).

The compilation of Wadden Sea fish species yielded a total of 149 proofs, of which 13 are freshwater species. The total number of North Sea fish species at the moment is 189 (Fröse & Pauly 2007), what means that about 72% of all North Sea fish species (can) occur in the Wadden Sea. With regard to a trilateral monitoring and assessment program only one half of all species is of practical importance: 50 species (33,6%) are common, 25 species (16,8%) are fairly common. 74 species (49,7%) have to be regarded as rare or even extremely rare in the Wadden Sea.

Literature


## Annex 04 List of Wadden Sea fish species

<table>
<thead>
<tr>
<th>No</th>
<th>Scientific name</th>
<th>English name</th>
<th>German name</th>
<th>Dutch name</th>
<th>DYFS</th>
<th>DFS</th>
<th>Witte &amp; Zijlstra</th>
<th>Red List occurrence</th>
</tr>
</thead>
<tbody>
<tr>
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Legend: x = present, (e)r = entry in rare, fc = entry in common
Annex 05

List of Wadden Sea bird species
**List of Wadden Sea bird species**

The table below indicates the birds species monitored in the trilateral Joint Monitoring of Migratory/Breeding Birds program to the EU Birds Directive.

Bird species are listed
a) according EU Birds Directive Annex I/II in Special Protection Areas (SPA) of the Wadden Sea in DK, SH, HH, Nds, and NL and
b) in the trilateral "Joint Monitoring of Migratory Birds" (JMMB) and "Joint Monitoring of Breeding Birds" (JMBB) program

Remark:
B,M,BM - bird linked as "Breeding", "Migratory" or as "Breeding and Migratory" bird to SPA.
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Annex 06

List of endemic saltmarsh species
List of endemic saltmarsh species

The table below lists 271 endemic species in the saltmarshes of the nominated property. A selection of a bibliography in English language with regard to the endemites is given for further information.


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| Lepidoptera | Pyralidae | Pediasia aridella (Thenberg) | hal-1 |
| Lepidoptera | Tortricidae | Bactra robustana (Christoph) | hal-1 |
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| Rhynchota- | Aphidoidea | Chaitaphis suaedae (Mimeur) | hal-1 |
| Rhynchota- | Aphidoidea | Coloradoa (Lidaja) heizei (Börner, 1952) / Börner, 1952 | hal-1 |
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| Rhynchota- | Aphidoidea | Macrosiphoniella pulvera (Walker, 1848) | hal-1 |
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| Rhynchota- | Aphidoidea | Atheroides brevicornis Laing | hal-2 |
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Annex 06, List of endemic saltmarsh species

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Annex 06, List of endemic saltmarsh species

**Diptera-Brachycera**

- **Dolichopodidae**
  - *Schoenophilus versutus* (Haliday, 1851) hal-2
  - *Sciapus maritimus* Becker, 1918 hal-1
  - *Sympycnus desoutteri* Parent, 1925 hal-2-3
  - *Syntormon filiger* Verrall, 1912 hal-2
  - *Syntormon pallipes* (Fabricius, 1794) hal-2-3
  - *Syntormon rufipes* hal-2
  - *Thinophilus flavipalpis* (Zetterstedt, 1843) hal-1
  - *Thinophilus ruficornis* (Haliday, 1838) hal-1-2
  - *Hilara lundbecki* Frey, 1913 hal-1
  - *Rhamphomyia (Pararhamphomyia) simplex* Zetterstedt, 1849 hal-1
  - *Chersodromia cursitans* (Zetterstedt, 1819) hal-2
  - *Chersodromia speculifera* Walker, 1851 hal-1
  - *Crossopalpus curvipes* (Meigen, 1822) hal-2
  - *Stilpon nubilus* Collin, 1926 hal-2
  - *Nemotelus notatus* Zetterstedt hal-1
  - *Nemotelus uliginosus* (Linne) hal-1
  - *Eristalinus sepulchralis* (L.) hal-1
  - *Lathyrophthalmus aeneus* hal-1
  - *Ensina sonchi* (LINNÉ, 1767) hal-1
  - *Paroxyna plantaginis* (HALIDAY, 1883) hal-1

- **Hybotidae**
  - *Exolygus maritimus* Wagner hal-2
  - *Conostethus fricusus* Wagner hal-1
  - *Melanotrichus moncreaffi* D.Sc. [Ortholygus] hal-1
  - *Melanotrichus rubidus* (Puton) [Ortholygus] hal-1
  - *Poliopterus litoralis* Wagner [Plagiognathus] hal-1
  - *Agramma confusa* (Puton) hal-1
  - *Chartoscirta elegantula* (Fallen) hal-2-3
  - *Chiloxanthus pilosus* (Fallen) hal-1-2
  - *Chiloxanthus setulosus* hal-1-2
  - *Halosalda lateralis* (Linne) hal-1
  - *Halosalda pallipes* (Fabricius) hal-2-3
  - *Saldua palustris* (Douglas & Scott) hal-1
  - *Saldua pilosella* (Thomson) hal-2-3
  - *Saldua saltatoria* (L.) hal-2-3

- **Auchenorrhyncha**
  - **Cicadellidae**
    - *Anosocus limicola* (=Aphrodes li. W.Wa.37) (Edwards, 1908) hal-1
  - **Cicadidae**
    - *Arthaldeus pascuellus* (Falle´n, 1826) hal-2-3
    - *Cicadula (Cicadula) quadrinotata* (Fabricius, 1794) hal-2-3
    - *Conosanus obsoletus* (Kirschbaum, 1858) hal-2-3
    - *Delphax pulchellus* (Curtis, 1833) hal-2-3
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Annex 09

Bibliography
Bibliography

A list of main references for the nomination of the Dutch-German Wadden Sea as World Heritage Site is provided in this Annex.


Annex 09 Bibliography


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Annex 10

Joint Declaration on the Protection of the Wadden Sea, 1982
Joint Declaration on the Protection of the Wadden Sea
9th December 1982

THE GOVERNMENTS of the Kingdom of Denmark, the Federal Republic of Germany and the Kingdom of the Netherlands;

CONSIDERING that the Waddensea region is a unique natural area whose biological, scenic and scientific significance is of international importance;

RECOGNIZING the special importance of the Waddensea region as a natural entity, as a vital element in the west-palaearctic flyway for migratory birds and as a nursery for marine organisms;

RECOGNIZING their responsibilities for the conservation of the ecosystem and the biological values of this region and its components as well as its natural beauty;

BEARING IN MIND the obligations resulting from international legal instruments relevant in the field of natural environment protection, in particular:

- the Convention on Wetlands of international importance especially as Waterfowl Habitat (Ramsar, 2 February 1971);
- the Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 23 June 1979);
- the Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 19 September 1979);
- the relevant EEC-Council Directives, especially that of 2 April 1979 on the protection of wild birds (supplemented by the council resolution of 2 April 1979);

DECLARE THEIR INTENTION

1 to consult each other in order to coordinate their activities and measures to implement the above mentioned legal instruments with regard to the comprehensive protection of the Waddensea region as a whole including its fauna (marine, terrestrial and avian) and flora with special emphasis on
- resting and breeding areas for seals,
- areas being important as resting, feeding, breeding, or moulting grounds for waterfowl, both in themselves and in their interdependencies;

2 to this end to intensify and broaden the contacts between their responsible administrations. The results of these consultations will be examined and, as appropriate, decided upon at Dutch-German-Danish meetings on governmental level about the Waddensea.

Done at Copenhagen in English this 9th day of December 1982 in three original copies each being authentic.

For the Government of the Kingdom of Denmark
Christian Christensen

For the Government of the Federal Republic of Germany
Hans Jürgen Rohr

For the Government of the Kingdom of the Netherlands
G.J.M. Braks
Annex 11

Administrative Agreement on a Common Secretariat for the Cooperation on the Protection of the Wadden Sea, 1987
Administrative Agreement

on a Common Secretariat for the Cooperation on the Protection of the Wadden Sea

between

the Ministry of the Environment of Denmark,


and

the ministry of Agriculture and Fisheries of the Netherlands.

The Ministry of the Environment of Denmark and the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety of the Federal Republic of Germany and the ministry of Agriculture and Fisheries of the Netherlands, hereinafter referred to as the Parties,

MINDFUL of the Joint Declaration dated 9 December 1982 of the Federal Republic of Germany, the Kingdom of Denmark and the Kingdom of the Netherlands on the Protection of the Wadden Sea and its implementation,

TAKING INTO ACCOUNT the conclusions arrived at in connection with the 4th trilateral governmental conference on the Wadden Sea in the Hague on 12 September 1985,

have agreed as follows:
Article I

(1) The Parties shall establish a Common Secretariat for their cooperation on the protection of the Wadden Sea.

(2) The duties of the Common Secretariat shall be carried out by a Secretary who is provided with adequate administrative support.

Article 2

(1) The Common Secretariat shall have the following duties relevant to the cooperation of the Parties on the protection of the Wadden Sea.

a) to provide assistance with regard to trilateral

- governmental conferences;
- consultations on policy and other relevant matters between senior government officials;
- consultations at the policy preparing and technical level within the framework of working groups;
- consultations of the representatives referred to in Article 3.

b) to collect and disseminate information on conservation measures;
- to analyse legal instruments and/or other means in each country, in existence or needed, in order to fulfil the obligations resulting from the instruments mentioned in the Joint Declaration.

c) to provide assistance with regard to trilateral meetings on practical management in the field of nature conservation.

d) to collect information on activities that have or may have significant effects on the natural environment in the Wadden Sea, to identify and signal such activities and give suggestions for appropriate action.

e) to promote or take care of, as appropriate, compilation, updating and evaluation of lists on completed and current research projects;
- to make proposals for closer scientific cooperation;
- to promote or take care of, as appropriate, the identification of needs and priorities for scientific research;
- to promote or take care of, as appropriate, the publication of expert information.

f) to provide assistance with regard to scientific symposia.

g) to make suggestions for a coordinated approach by the Parties in international fora;
- to make an assessment of measures being taken or to be taken by other states adjacent to the North Sea and by the European Communities.
h) - to prepare drafts for the annual work programme and budget;
   - to prepare and propose financial statements.

i) - further duties assigned to it by the representatives, e.g.
   providing assistance with regard to future trilateral agreements.

(2) Suggestions and proposals concerning the items mentioned in
the preceding paragraph, can only be presented by the Common
Secretariat to the representatives or in trilateral working
groups in accordance with the representatives. The external
functioning of the Common Secretariat in the framework of its
duties shall furthermore require the approval of the Chairman of
the representatives.

(3) The senior government officials shall establish, on the pro-
posal of the representatives, the annual work programme to be
carried out by the Common Secretariat.

Article 3

(1) The Parties each shall appoint a representative to jointly
supervise the performance of the duties of the Common Secreta-
ritat.

(2) The group of representatives shall be chaired by the repre-
sentative of the Party responsible for hosting the next trilate-
ral governmental conference. The chairman shall supervise the
functioning of the Common Secretariat. He shall issue assignments
to the Secretary in accordance with the representatives of the
other two states. The chairman of the group of representatives
shall be the Secretary's immediate superior.

(3) Differences among the representatives as to the functioning of
the Secretariat shall be referred to the senior government
officials, appointed by each Party, and settled by them using the
appropriate means.

Article 4

(1) The Common Secretariat shall have an annual budget, covering
the costs of the Secretariat. Office facilities are provided by
the party, where the Secretariat is located; normally outside the
budget.

(2) Each of the Parties shall finance one third of the annual
budget.

(3) The budget shares of the Parties shall be paid at the begin-
ing of every budget year. The accounts shall be closed at the
end of the same year.

(4) The senior government officials - each in accordance with
national practices - shall adopt on the proposal of the represen-
tatives the annual budget and the financial statements, including
the salaries of the personnel of the Common Secretariat.
Article 5

The working language of the Secretariat is English.

Article 6

The legal status of the Common Secretariat, including that of its personnel, is determined by the laws of the country in which the Secretariat is located. The Party in whose country the Secretariat is located shall be the formal employer of the Secretary.

Article 7

(1) The Common Secretariat shall first be established in the Federal Republic of Germany.

(2) The next location of the Common Secretariat shall be decided at the latest at the next trilateral governmental conference on the basis of a proposal presented by the Party organizing and hosting the subsequent conference (Denmark, and subsequently the Netherlands, The Federal Republic of Germany and so forth).

(3) The Common Secretariat shall be attached to a national public institution in the country where it is located without prejudice to the provisions of Article 3 (2).

Article 8

(1) The chairman of the group of representatives proposes in agreement with the other representatives a candidate for appointment as Secretary. The Secretary shall be first appointed by the German side. The next Secretary is appointed by the Party referred to in Article 7 (2).

(2) The Secretary is appointed for the period between two trilateral governmental conferences, which is normally 3 years.

(3) The Secretary's qualifications shall be university level or equivalent, and his salary shall be set at a corresponding level.

(4) important decisions concerning the Secretary, including possible dismissal, are taken by hat Party, which appointed the Secretary, in agreement with the other representatives.

Article 9

This Agreement shall also apply to Land Berlin, provided that the government of the Federal Republic of Germany does not make a contrary declaration to the other two Parties within 3 months of the date of entry into force of this agreement.
Article 10

(1) This Agreement can only be amended with the consent of the three Parties.

(2) Each Party may denounce this Agreement by written notification to the other Parties. The denunciation shall take effect 12 months after the last Party has received the notification, in no circumstances however prior to expiry of the period for which the secretary is appointed.

Article 11

This Agreement shall enter into force 10 days after it has been signed by the last Party and has been notified to the other Parties.
Annex 12

Stade Declaration
Trilateral Wadden Sea Plan (WSP), 1997

Cover note

The Trilateral Wadden Sea Plan was adopted at the 8th Wadden Sea Conference in Stade, Germany in 1997. The Wadden Sea Plan (WSP) constitutes the common trans-boundary policy and management for the Wadden Sea Area. The Wadden Sea Plan applies to both the nominated property “The Wadden Sea” and the adjacent areas covered by the Wadden Sea cooperation.

The Wadden Sea Plan is an essential element of the management system of the nominated property.

This management system is a combination of the national management systems and the trilateral Wadden Sea Plan aiming at securing a coordinated management of the trans-boundary site located on the territory of two sovereign states, the Federal Republic of Germany and the Kingdom of the Netherlands and incorporating responsible authorities.
Stade Declaration
Trilateral Wadden Sea Plan

Ministerial Declaration of the Eighth Trilateral Governmental Conference on the Protection of the Wadden Sea

Stade, October 22, 1997
Foreword

The adoption of the Stade Declaration and the Wadden Sea Plan mark two decades of nature cooperation between The Netherlands, Germany and Denmark. It is a token of twenty years of joint responsibility for the protection of a nature area of outstanding importance, both national and international.

During the first decade of the trilateral Wadden Sea Cooperation the emphasis was on the protection of birds and seals.

By the end of the eighties a start was made with a more integrated approach to nature conservation. At the 6th Governmental Wadden Sea Conference, Esbjerg 1991, the whole range of human activities in the Wadden Sea was addressed. Three years later, at the Leeuwarden Conference, the regulation of human use was embedded in a system of ecological targets for all typical Wadden Sea habitats.

The adoption by the 8th Wadden Sea Conference in Stade, Germany, 1997, of the Stade Declaration and the Trilateral Wadden Sea Plan, may be valued as the accumulated achievement of almost twenty years of political cooperation on international nature conservation.

The Stade Conference is at the same time the starting point of a new phase in the trilateral Wadden Sea Cooperation which will be dedicated to the integration of nature conservation and human use on the basis of the common Targets and the catalogue of measures for achieving the Targets as laid down in the Trilateral Wadden Sea Plan.

The active involvement of all stakeholders in this process is one of the major challenges for the years to come. Our efforts to protect and develop the area in a sustainable way can only succeed if all those who work and live in the area, are committed to this objective.

A start with this involvement was made during the public discussions accompanying the preparation of the Wadden Sea Plan. We thank all those who have actively taken part in these discussions.

Angela Merkel

Svend Auken

Josias van Aartsen
Stade Declaration

The MINISTERS responsible for the protection of the Wadden Sea Area\(^1\) of Denmark, The Netherlands and the Federal Republic of Germany met at the 8th Trilateral Governmental Conference on the Protection of the Wadden Sea (the Stade Conference) in Stade on 22 October 1997 to reinforce, further develop and enhance their joint cooperation, building upon the agreements made at previous Wadden Sea Conferences, in particular, at the Esbjerg Conference, 1991, and the Leeuwarden Conference, 1994.

They note the progress made in the protection of the Wadden Sea since the Leeuwarden Conference in 1994 as entailed in the Progress Report. They reaffirm that efforts must continuously be made to conserve and protect the area for coming generations in accordance with AGENDA 21\(^2\) and the Convention on Biological Diversity and that the implementation of agreed policies and measures must be undertaken in dialog with the stakeholders.

The Wadden Sea Area is an area of outstanding ecological importance. They acknowledge their global responsibility for this area. The Wadden Sea Area is also an area where people live, work and recreate. Safety of the inhabitants is of utmost importance. Conditions for sustainable economic developments must be maintained.

There is a close interrelationship between the Wadden Sea Area and its surroundings. On the one hand, areas adjacent to the Wadden Sea Area can benefit from the values of the Wadden Sea. On the other hand, developments and activities outside the Wadden Sea Area may have an impact on the values of the Wadden Sea Area. The benefits should be improved and the negative impacts addressed.

They acknowledge the statements submitted by the non-governmental organisations, the Joint Statement of the Dutch-German-Danish Wadden Sea Advisory Councils, the Joint Statement of the Inter-regional Wadden Sea Cooperation and the common resolutions of the Dutch-German-Danish Wadden Sea Island Cooperation as valuable contributions to inspire, stimulate and advance the Trilateral Wadden Sea Cooperation.

They appreciate the efforts made by the Inter-regional Wadden Sea Cooperation to contribute to the work of the trilateral cooperation, in particular, with regard to the issues of environmental impact assessment and sustainable tourism and acknowledge that the close collaboration has been of mutual benefit.

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1. The Wadden Sea Area is the Trilateral Area of Cooperation as defined in§9 of the Leeuwarden Declaration.
2. Chapter 17 on the “Protection of oceans, all kinds of seas, including semi-enclosed seas, and coastal areas and the protection, rational use and development of their living resources” and chapter 15 on the “Conservation of biological diversity”.
They appreciate the work carried out so far by the QSR Group in preparing the Wadden Sea Quality Status Report and take note of the assessment of the Wadden Sea ecosystem as entailed in the Assessment Report.

The Ministers, in the exercise of their political responsibilities, AGREE on the following:

**Wadden Sea Plan**

1. The Ministers AGREE to adopt the Wadden Sea Plan in Annex I, elaborated in accordance with the Leeuwarden Declaration, entailing the common policies, measures, projects and actions of the countries for their joint efforts to fulfill the Targets.

2. The Ministers AGREE to consider and, where necessary, amend the Wadden Sea Plan at the next Trilateral Wadden Sea Conference in accordance with the procedure outlined in the Plan and the Leeuwarden Declaration.

3. The Ministers ACKNOWLEDGE that the success of implementing the Wadden Sea Plan, a.o., depends on the extent to which relevant authorities, interest groups and local citizens contribute to the realization of the policies and measures.

4. Inhabitants, users, visitors and all stakeholders in the Wadden Sea region are invited to provide their ideas and inputs through the Wadden Sea Plan to the implementation of the Targets.

5. The Ministers URGE the competent national authorities to maintain or intensify their cooperative dialogue with all stakeholders involved, in order to promote public acceptance of the Wadden Sea Plan and thus to promote the idea of sustainable use of the natural resources of the Wadden Sea Area, for the long-term benefit of everyone living and working in the Wadden Sea Area. This includes the information of the local population in the national languages.

6. The Ministers WELCOME the suggestions presented during the Conference and the resolutions of the non-governmental organisations, the Dutch-German-Danish Wadden Sea Advisory Councils, the Inter-regional Wadden Sea Cooperation and the Dutch-Danish Wadden Sea Island Cooperation and EMPHASIZE that these suggestions should be further taken into consideration in the above mentioned dialogue with all stakeholders.

7. The Ministers RECOGNIZE the important contribution different types of co-management schemes can make in appropriate circumstances, at various levels and in many aspects of Wadden Sea management and WELCOME further research in this field.

8. The Ministers STRESS the fundamental need to protect the local population against storm floods and they take care that the implementation of the Wadden Sea Plan will not impair safety standards.

9. The Ministers ACKNOWLEDGE the responsibility of the Wadden Sea States to maintain the safety on international and national shipping routes and they ENCOURAGE the competent authorities, which are responsible for safe and easy access to sea ports and their management, to take into account the recommendations of the Wadden Sea Plan.

3 Throughout this Declaration the term ‘agree’ is to be understood as defined in this paragraph.
10 The Ministers URGE the competent national authorities to exchange views and to communicate with all stakeholders involved in the implementation of the Wadden Sea Plan, and they EXPECT the local population and local communities to be actively involved in the formulation of proposals, which will be taken into consideration at the next Wadden Sea Conference and which will improve and bring the Wadden Sea Plan up-to-date.

11 The Ministers AGREE that the implementation of the Wadden Sea Plan will be evaluated and assessed carefully during the coming years and that a progress report be submitted to the next Wadden Sea Conference, providing the basis for the further development of the Wadden Sea Plan. Special consideration should be given to the islands in the Wadden Sea Area. The Ministers PUT their senior officials IN CHARGE of supervising the assessment and evaluation of the implementation of the Plan.

12 The Ministers REGARD the Wadden Sea Plan as a good example of international cooperation on a shared nature area and ENDORSE its submission to appropriate international conferences in the field of environmental and nature cooperation.

External Impacts

13 The Ministers HIGHLIGHT the fact that the quality of the Wadden Sea Area may be influenced significantly by activities taking place outside or pollution stemming from sources outside the Wadden Sea Area. The Ministers REGARD the large areas of “black spots” in the East Frisian Wadden Sea during 1996 as a sign of impairment of the decomposition capacity of the benthic system, one of the major functions of the Wadden Sea ecosystem. The Ministers, therefore, AGREE that the three countries will join their efforts within international fora, as well as, in negotiations with other parties towards fulfilling the following goals:

Reduction of inputs of nutrients, hazardous substances and oil

14 They RECOGNIZE the importance of the catchment areas of the debouching rivers for the quality of water, sediment and marine habitats and ACKNOWLEDGE that the total load of hazardous substances and phosphorus compounds entering the Wadden Sea Area via the rivers has been reduced considerably during the last 10 years but that oil pollution from shipping is still a problem.

15 They INSIST that the total load of nutrients entering the Wadden Sea Area must be reduced significantly. Existing international agreements and EU regulations in this field must be implemented rigorously. Especially important are the following measures:
- to equip, as soon as possible, waste water treatment plants in the catchment area of the North Sea and Wadden Sea with nutrient treatment stages;
- to promote extensification of agricultural practices - also through EU-programs - and to reduce ammonia emissions from agriculture;
- to reduce emissions from traffic.

16 They UNDERLINE that the reduction of inputs of hazardous substances and oil needs to be continued and that specific efforts need to be undertaken in the adjacent ports and in all river systems entering the Wadden Sea. The pollution, especially by oil from shipping, needs further reduction, in particular, by providing cost effective and customer-friendly port reception facilities.
Activities in the adjacent area

17 They strongly URGE all competent authorities to consider the common interests of the Wadden Sea Area and to reduce, where this is necessary, the environmental impacts of, in particular, harbor and industrial facilities, recreation, civil air traffic, military activities, wind energy, agriculture and traffic, inter alia by taking specifically into account, in EIA procedures, the needs of the Wadden Sea ecosystem, the Common Principles and relevant EU Directives. Moreover, in dealing with such activities and in applying relevant national and EU regulations, decision makers should strive for both a net social benefit and a net positive ecological outcome.

EC Bird and Habitat Directives

18 The Ministers NOTE that major parts of the Wadden Sea Area have been listed as a habitat area by the competent authorities in accordance with Art. 4 of the EC Habitat Directive and/or Art. 4 of the EC Bird Directive and that the list has been transmitted to the European Commission. The Schleswig-Holstein part of the Wadden Sea has also been prepared to be nominated as Special Protection Area under the EC Bird Directive as the last remaining part of the Wadden Sea Area. A majority of the Wadden Sea Area is hence, now part of NATURA 2000.

19 The Ministers RECOGNIZE that there are differences in the delimitations of the listed areas and, therefore, AGREE to work further towards a more coherent Natura 2000 area for the Wadden Sea.

Trilateral Monitoring and Assessment Program

20 The Ministers APPRECIATE the work exercised by the Trilateral Monitoring and Assessment Working Group (TMAG) in elaborating the report on the “Implementation of the Trilateral Monitoring and Assessment Program (TMAP)” in fulfillment of §67 of the Leeuwarden Declaration. The work has been carried out in the framework of the DEMOWAD-project co-financed by the European Commission under the LIFE Program.

21 The Ministers AGREE to implement the common package of parameters as in Annex 2 and, to this end, establish, as soon as possible, the necessary financial and organizational preconditions for its implementation, including the associated data management.

22 The Ministers AGREE to an evaluation of experiences with this common package at the next Wadden Sea Conference.

Particularly Sensitive Sea Area Wadden Sea

23 The Ministers NOTE the progress being made within the International Maritime Organization (IMO) to reduce the environmental impact of shipping on sensitive sea areas like the Wadden Sea, especially with the mandatory routeing measures for oil- and chemical tankers off the Dutch and German Wadden Sea coast.

24 The Ministers NOTE that all relevant measures have been taken inside the Wadden Sea Area or in the adjacent area according to the conditions for Particularly Sensitive Sea Areas (PSSAs) as required by the IMO.
25 The Ministers ENDORSE a study on the possibilities for a proposal to the IMO to designate the Wadden Sea and an adjacent zone as Particularly Sensitive Sea Area (PSSA).

**Environmental Impact Assessment**

26 The Ministers WELCOME the work carried out by the Interregional Wadden Sea Cooperation (IRWC) pursuant to §§ 26-27 of the Leeuwarden Declaration and its decisions with regard to Environmental Impact Assessments (EIAs).

27 The Ministers INVITE relevant competent authorities, when deciding on thresholds and/or criteria for Annex II projects of EC Directive 97/11/EEC, to give special consideration to the significant effects these projects are likely to have on the Wadden Sea Area.

28 The Ministers AGREE on their intention, when applying the information and consultation procedures of the ECE Convention on Environmental Impact Assessment in a Transboundary Context, to consider the specific vulnerability of the Wadden Sea Area.

29 The Ministers RECOMMEND that in the assessment of plans and projects in the Wadden Sea Area, alternatives should be considered following the EC Habitat Directive. In this context social and economic aspects should be taken into account, as appropriate.

**International Cooperation**

**The Wash - Wadden Sea Cooperation**

30 The Ministers AGREE to continue to cooperate by establishing projects in the field of exchange of information and experiences on monitoring, management of the common seal population and on establishing an improved collaboration between management authorities.

**Guinea Bissau - Wadden Sea Cooperation**

31 The Ministers AGREE to continue the collaboration in the context of the Memorandum of Intent by signing a new three-year work program as in Annex 3 which continues and builds upon the experiences and results of the first work program with the aim of finalizing the training of an ornithological team and to establish an organization to support and further develop management and public awareness in the area.

**Brent Goose Management Plan**

32 The Ministers INVITE The Netherlands to proceed with finalizing the preparation of the International Management Plan for the Brent Goose and prepare the drafts and attached actions for decisions by the First Meeting of the African-Eurasian Waterbird Agreement (AEWA).
Conservation of Seals and Small Cetaceans

33 The Ministers ACKNOWLEDGE the Conservation and Management Plan for the Wadden Sea Seal Population 1996-2000 elaborated and endorsed in the framework of the Seal Agreement as being the elaboration of the Targets on Common and Grey Seals entailed in the Wadden Sea Plan.

34 The Ministers WELCOME that a network will be organized for the collection of information on by-catch of harbor porpoises in the framework of the Agreement on Small Cetaceans of the Baltic and the North Sea (ASCOBANS) which is also relevant for the Wadden Sea Area and the area seaward of the Wadden Sea Area.

Cooperation in the Field of Public Information

35 The Ministers AGREE to explore possibilities to enhance the quality of public participation and WELCOME the initiative of The Netherlands to organize a workshop for that purpose.

Tourism Development

36 The Ministers ACKNOWLEDGE the work carried out by the Inter-regional Wadden Sea Cooperation regarding the analysis and visions of sustainable tourism development and recreational use in the Wadden Sea region.

The Ministers AGREE to initiate interregional cooperation to develop and implement policies on sustainable tourism, together with relevant stakeholders, as well as, local and other relevant authorities. They INVITE the Inter-regional Wadden Sea Cooperation to carry out this task.

Cultural Heritage

37 The Ministers TAKE NOTE of the results of the workshop on Cultural Heritage held in Ribe, Denmark and DECIDE that the planned mapping of cultural heritage in the Wadden Sea Area will be extended to relevant adjacent parts of the Wadden Sea Area.

Future Cooperation

Scientific Wadden Sea Symposium

38 The 10th International Scientific Wadden Sea Symposium will be held at the invitation of the Dutch Government.

9th Wadden Sea Conference

39 Denmark will chair the cooperation from January 1, 1998. The 9th Wadden Sea Conference will be held in Denmark in 2001.
Signatures

For the Government of the Federal Republic of Germany

Dr. A. Merkel

For the Government of the Kingdom of Denmark

S. Auken

For the Government of the Kingdom of The Netherlands

J.F. de Leeuw
Annex I
Trilaterial Wadden Sea Plan

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Preface

The Wadden Sea: into the next Millennium

1. The Wadden Sea is an area of outstanding natural value. It is characterized by a high biological productivity and high natural dynamics. The Wadden Sea is the largest European wetland area and its tidal flats form the largest unbroken stretch of mudflats worldwide.

2. The Wadden Sea area has been inhabited for thousands of years. In the beginning, the population lived mainly from hunting and fishery. Together with permanent settling and the development of agriculture, land reclamation became an important activity. In the course of the last century, and especially since the end of World War II, the influence of humans has increased with growing technical possibilities and economical opportunities. The Wadden Sea is an area where people live, work and recreate.

3. It is only 30 years ago that there were serious plans to embank substantial parts of the Wadden Sea for agricultural purposes. Nowadays, it is a common understanding that the Wadden Sea is an area with unique natural values which are the basis for livelihood of the local people, tourism, recreation and other activities.

4. At the beginning of the 1970s, national and international policies for combatting chemical pollution of the sea started. Since then, a considerable shift in thinking occurred which resulted in substantial improvements in the quality of the water and sediment.

5. This shift in thinking started at the beginning of the century through the pioneer work of concerned citizens and non-governmental organizations who founded protected colonies for birds. Still, it has taken almost 70 years before the official awareness of the importance of the area resulted in effective nature protection. Central, regional and local governments and interest groups have played an important role here, although they have often been criticized.

6. Almost 20 years ago, a process began which resulted in the protection and conservation of the entire Wadden Sea with nature reserves and national parks and the establishment and extension of the trilateral Wadden Sea cooperation between The Netherlands, Germany and Denmark. In parallel, parts of the area were designated as Wetlands of International Importance (Ramsar Areas), Bird and Habitat Directives areas and as Man and Biosphere (MAB) Reserves.

7. The Wadden Sea is a coastal sea and there are many interactions with the North Sea and the northwestern European mainland. The quality of water, sediment and marine habitats of the Wadden Sea is to an important degree affected by the North Sea and activities in the catchment are as of the debouching rivers. The Wadden Sea is an important nursery area for North Sea fish and some species of marine mammals. For these reasons, the trilateral policy and management regarding pollution and species and habitat protection issues have been, and are, closely related
International Designations
(see maps in Appendix I)

A. Legally binding
EC Directives

1. The Council Directive 79/409/EEC 1979 (EC Bird Directive) aims at the protection of all species of naturally occurring birds in the territory of the member states. According to the Bird Directive, member states shall classify the most suitable territories for the conservation of these species, including migratory species, as special protection areas (SPAs). The Dutch part of the Conservation Area has been designated as SPA. In Germany, the Lower Saxony part of the Conservation Area has been designated as SPA, as well as, the islands of Scharhörn and Neuwerk and the Schleswig-Holstein Wadden Sea National Park and five adjacent areas. The designation of the Hamburg Wadden Sea National Park is under preparation. In Denmark, the Danish part of the Conservation Area, with the exception of the shipping lane from the North Sea to Esbjerg, the uninhabited parts of the islands and the adjacent marsh areas on the mainland have been designated as SPAs.


B. International
Conventions and Programs

3. The Convention on Wetlands of International Importance Especially as Waterfowl Habitat 1971 (Ramsar Convention) is a world wide treaty for the conservation of wetlands: shallow open waters and any land regularly or intermittently covered or saturated by water. In the framework of the Convention, wetlands of international importance are designated by the contracting parties. Major parts of the Wadden Sea have been designated as Ramsar sites: The Dutch part of the Conservation Area has been designated as Ramsar site. In Germany, the Wadden Sea Ramsar sites are basically the national parks and a number of areas on the islands and the adjacent mainland. In Denmark, the Wadden Sea Ramsar site consist of the uninhabited parts of islands, adjacent marsh areas on the mainland and the Danish part of the Conservation Area, except for the shipping lane from the North Sea to Esbjerg and the Esbjerg harbor.

4. Man and Biosphere Reserves (MAB) are protected areas of representative terrestrial and coastal environments which have been internationally recognized under the United Nations Educational, Scientific and Cultural Organization (UNESCO) MAB Program for their value in conservation and in providing the scientific knowledge, skills and human values to support sustainable economical development. The German and the Dutch parts of the Conservation Area have been designated as MAB and Biosphere Reserves.

The Conservation Area consists of the trilateral areas of conservation as defined in §10 of the Leeuwarden Declaration.
to developments within the framework of the North Sea Conferences, the Oslo and Paris Conventions and, in their succession, the Convention for the Protection of the Marine Environment of the northeast Atlantic (OSPAR Convention 1992), which is expected to be ratified in the near future, and the International Maritime Organization (IMO).

8 Through these national and international designations and treaties, the Wadden Sea has obtained an extended and comprehensive protection status. The protection schemes and arrangements resulting from these designations, can be regarded as a start of the implementation of the commitments emerging from the Convention on Biological Diversity and Agenda 21. They are also the basis for the present and future sustainable use and development of the Wadden Sea region.

9 It is often argued nowadays that “we have done enough for nature” and even that the Wadden Sea is overprotected. The many rules and regulations, however, directly reflect the many claims to use the Wadden Sea. These claims are often as relevant as a decade ago and, in a number of cases, even more serious. Land reclamation will not be carried out again and the reduction of pollution is a highly relevant political issue but intensified impacts and conflicts may be expected from, amongst others, gas exploration and exploitation, wind energy, deepening of estuaries and coastal protection, in light of the increased sea level rise.

10 Moreover, we are dealing with a system which reflects past impacts. Land reclamation, for example, has reduced the size of the area which again has reduced the ability of the system to deal with an accelerated sea level rise. The occurrence of black spots in the Lower Saxony Wadden Sea is an indication of accumulated organic material resulting from eutrophication. Also, the high number of threatened habitats, as indicated in red lists, must be reduced to achieve the full scale of habitat types which belong to a natural and dynamic Wadden Sea.

11 The Targets, which are the focal point of this document, reflect both the need for a recovery of the natural values of the Wadden Sea ecosystem and the necessity that human activities in the area must also be possible in the future. The Targets make clear that an increase of natural and undisturbed habitats all over the Wadden Sea is a condition for the restoration of the ecosystem. The Targets have been formulated in an open-end way, although the direction towards the desired situation is given. This means that there is room for negotiation, both from the user and the nature protection sides.

12 At the same time, it is a precondition that sustainable human activities in the area remain possible in the future. Sustainable development also has to take into account the needs and requirements of the population, e.g. coastal protection measures, management of shipping routes, energy supply, agriculture, fishery, tourism, infrastructure and internal and external security.

13 Through this Plan, inhabitants, users, visitors and all stakeholders in the Wadden Sea region are invited to provide their ideas and inputs to the implementation of the Targets.

The Shared vision

14 The Targets feature a shared vision of the Wadden Sea which encompasses the countries’ aspirations:

- A healthy environment which maintains the diversity of habitats and species, its ecological integrity and resilience as a global responsibility.
• Sustainable use.
• Maintenance and enhancement of values of ecological, economic, historic-cultural, social and coastal protection character, providing aspirations and enjoyment for the inhabitants and users.
• Integrated management of human activities which takes into account the socio-economic and ecological relationship between the Wadden Sea Area and the adjacent areas.
• An informed, involved and committed community.
I. Integrated Management of the Wadden Sea

The Wadden Sea Plan

1. At the 6th Trilateral Governmental Conference in Esbjerg in 1991, it was decided to elaborate a management plan covering the Wadden Sea from Den Helder to Esbjerg in order to further substantiate the joint coherent protection. At the Esbjerg Conference, and the subsequent conference in 1994, the Leeuwarden Conference, the cornerstones of the Wadden Sea Plan were adopted: the delimitation of the Trilateral Area of Cooperation and Conservation, the Guiding Principle, the Management Principles, and the Targets.

2. A precondition is, that all measures, activities and policies mentioned in this plan, are to be realized in a sustainable way, as defined in the Convention on Biological Diversity. The three parties stress that this definition implies that the use of components of biological diversity may not lead to the long-term decline of biological and ecological diversity and that nature protection may not lead to the long-term decline in socio-economic conditions for the inhabitants of the Wadden Sea Area. The interests of all user groups within the Wadden Sea Area must be weighed against general and specific protection aims in a proper way. The impairment of traditional interests of the local population, which are not contrary to the protection aims, should be avoided.

3. The implementation of the Plan will not affect the protection of the local inhabitants against the sea.

Status

4. The Wadden Sea Plan entails policies, measures, projects and actions which have been agreed upon by the three countries. The Plan is a framework for the overall Wadden Sea management and will be revised at regular intervals. It is a statement on how the three countries envisage the future coordinated and integrated management of the Wadden Sea Area and the projects and actions that must be carried out to achieve the Targets.

5. The Wadden Sea Plan was developed with the participation of authorities and interest groups. The Plan was prepared with financial support from the European Commission.

6. The Plan is a political agreement and will be implemented by the three countries in cooperation, and individually, by the competent authorities on the basis of existing legislation and through the participation of interest groups. The implementation of the Plan shall not interfere with legislation regarding, in particular, marine navigation, management of marine navigation

2 Meaning it is a legally non-binding document of common political interest.
routes, harbor management, disaster control, sea rescue services and other aspects of internal and external security.

### Delimitation

7 The geographical range of the Wadden Sea Plan is the Trilateral Wadden Sea Cooperation Area, in short, Wadden Sea Area, which is:
- the area seaward of the main dike, or where the main dike is absent, the spring-high-tide-water line, and in the rivers, the brackish-water limit;
- an offshore zone 3 nautical miles from the baseline;
- the corresponding inland areas to the designated Ramsar and/or EC Bird Directive areas;
- the islands.

The trilateral conservation area, in short the Conservation Area, is situated within the Wadden Sea Area, and consists of:
- in The Netherlands, the areas under the Wadden Sea Memorandum including the Dollard;
- in Germany, the Wadden Sea national parks and protected areas under the existing Nature Conservation Act seaward of the main dike and the brackish water limit including the Dollard;
- in Denmark, the Wildlife and Nature Reserve Wadden Sea.

A map of the Wadden Sea Area and the Conservation Area is given in Appendix I.

It is recognized that within the Wadden Sea Area, there are areas in which human use has the priority.

### Shared Principles

8 The Guiding Principle of the trilateral Wadden Sea policy is “to achieve, as far as possible, a natural and sustainable ecosystem in which natural processes proceed in an undisturbed way” (ED §1). The Principle is directed towards the protection of the tidal area, salt marshes, beaches and dunes (LD §8).

In addition, seven Management Principles have been adopted which are fundamental to decisions concerning the protection and management within the Wadden Sea Area (Esbjerg Declaration §3):

- the Principle of Careful Decision Making, i.e. to take decisions on the basis of the best available information;
- the Principle of Avoidance, i.e. activities which are potentially damaging to the Wadden Sea should be avoided;
- the Precautionary Principle, i.e. to take action to avoid activities which are assumed to have significant damaging impact on the environment, even where there is no sufficient scientific evidence to prove a causal link between activities and their impact;
- the Principle of Translocation, i.e. to translocate activities which are harmful to the Wadden Sea environment to areas where they will cause less environmental impact;
- the Principle of Compensation, i.e. that the harmful effect of activities which cannot be avoided, must be balanced by compensatory measures; in those parts of the Wadden Sea, where the Principle has not yet been implemented, compensatory measures will be aimed for;
- the Principle of Restoration, i.e. that, where possible, parts of the Wadden Sea should be restored if it can be demonstrated by reference studies that the actual situation is not optimal, and that the original state is likely to be re-established;
- the Principles of Best Available Techniques and Best Environmental Practice, as defined by the Paris Commission.
Unreasonable impairments of the interests of the local population and its traditional uses in the Wadden Sea Area have to be avoided. Any user interests have to be weighed on a fair and equitable basis in the light of the purpose of protection in general, and the particular case concerned.

### Targets

9 The trilateral conservation policy and management is directed towards achieving the full scale of habitat types which belong to a natural and dynamic Wadden Sea. Each of these habitats needs a certain quality (natural dynamics, absence of disturbance, absence of pollution), which can be reached by proper conservation and management. The quality of the habitats shall be maintained or improved by working towards achieving Targets which have been agreed upon for six habitat types. Targets on the quality of water and sediment are valid for all habitats. Supplementary Targets on birds and marine mammals have been adopted, as well as, Targets on landscape and cultural aspects.

### Zoning

10 In a large complex ecosystem like the Wadden Sea, a differentiated management is necessary to balance the implementation of the Targets and sustainable human use. At the Leeuwarden Conference, it was agreed ‘to acknowledge zoning as a valuable management instrument and consider the need for harmonization of this and other management instruments’ (LD §18.5).

11 The three Wadden Sea countries use different approaches to zoning. In order to be able to compare the implementation of the Targets in the different parts of the Wadden Sea Area, a common understanding of the various protection regimes and the way they are applied in the three countries is necessary. To this end, the different national protection regimes will be compared and assessed on the basis of a common classification tool. On the basis of this assessment, the need for harmonization of zoning, in relation to other instruments, will be investigated.

### Economic development and potentials

12 Within the constraints of a suitable protection and a natural development of the Wadden Sea, economic activities remain possible. Agriculture, industry, shipping, fisheries, tourism and recreation have considerable economic significance for the Wadden Sea region and must be balanced in a harmonious relationship between the needs of society and ecological integrity. This will be done in cooperation with the stakeholders. Regarding sustainable tourism development and recreational use in the Wadden Sea region, a joint proposal will be elaborated, together with the Interregional Wadden Sea Cooperation, for a policy emphasizing the development of communication and the involvement of the stakeholders. The policy should aim at contributing to maintain the social structures and cultural identity of the region.
Communication and information

13 The Targets are the focal point of this plan. In order to achieve the goal to protect the full scale of habitat types in the Wadden Sea Area and a successful implementation of the Wadden Sea Plan, the active support of relevant authorities, interests groups and local citizens is important.

14 Effective communication on this plan and Targets are essential and possibilities to enhance this and improve public participation will be explored. Notwithstanding the responsibility of competent authorities for the conservation and protection of the Wadden Sea Area, different types of active involvement of stakeholders (co-management) can contribute to many aspects of the implementation of the Wadden Sea plan.

15 The following trilateral projects and actions will be undertaken:
- The possibilities for enhancing the quality of public participation, amongst others, by different types of active involvement of stakeholders (co-management) will be explored on a national basis.
- The results of the Trilateral Monitoring and Assessment Program (TMAP) will be made available for relevant authorities, interest groups and local citizens.
- The possibilities for a trilateral information and communication site on the Internet will be explored.

16 The competent authorities are invited to submit information on Environmental Impact Assessments in the Wadden Sea region to the Common Wadden Sea Secretariat.

Evaluation and review

17 The progress of the implementation of the trilateral policies and management, projects and actions entailed in the Wadden Sea Plan will be evaluated in preparation of each Trilateral Wadden Sea Conference on the basis of, inter alia, the Quality Status Reports on the Wadden Sea (QSRs) emerging from trilateral monitoring and assessment activities, relevant reports and developments on the national and international level. As appropriate, the Wadden Sea Plan will be amended on the basis of the conclusions and recommendations of the review process.

Structure of the Plan

18 This document is structured according to the Target categories as adopted at the Leeuwarden Conference:

- Landscape and Culture
- Water and Sediment
- Salt Marshes
- Tidal Area
- Beaches and Dunes
- Estuaries
- Offshore Area
- Rural Area
- Birds
- Marine Mammals
For each Target category, a brief description is given followed by its current status, the precise wording of the relevant Target(s), an assessment of the situation and how to proceed. On the basis hereof, trilateral policy and management and proposals for trilateral projects and actions necessary for the implementation of the Targets have been developed, taking into account the Esbjerg and Leeuwarden Declarations.

The measures, projects and actions generally apply only to the habitat under consideration. The chapters 'Landscape and Culture', 'Water and Sediment', 'Birds' and 'Marine Mammals' have a habitat crossing character. Measures, projects and actions contained in these chapters also apply to one or more of the other habitats.

Three Appendices are attached to the Plan. In Appendix I, thematic maps of the Wadden Sea Area are given. Appendix II contains an index of entries of activities, Appendix III a glossary.
II. The Targets

1. Landscape and Culture
2. Water and Sediment
3. Salt Marshes
4. Tidal Area
5. Beaches and Dunes
6. Esturaries
7. Offshore Area
8. Rural Area
9. Birds
10. Marine Mammals
1 Landscape and Culture

About 2,600 years ago, salt marshes started to develop behind the Wadden Sea islands. The green, fertile grounds, which are, nowadays, the embanked polders and marsh areas of the northern Netherlands, northern Germany and the most southern part of Denmark, were soon to be inhabited and cultivated.

The contemporary towns and villages are in many cases located at the authentic settlements on the small artificial mounds which were erected by the earliest settlers from the 7th century B.C. onwards. Nowadays, they belong to the most characteristic elements of the Wadden Sea marsh landscape. The earliest inhabitants lived in an area of tidal flats, moors and swamps. The mounds constituted the only active interference in the area.

About 1,000 A.D., the building of a comprehensive system of seawalls and sluices commenced, in order to enable further grazing and agricultural use. It allowed for settling in the marshes without the use of artificial mounds. Through the subsequent centuries, a unique and wide-open landscape developed with extensive agricultural activities with, a.o., cattle breeding and an industrious commerce with a large part of Europe.

In conjunction with agriculture, North Sea fishery, trade and whaling, a flourishing economy developed in extensive periods throughout the centuries on the islands and the polder and marsh areas which laid the foundation for the development of urban centers and villages and which, in terms of buildings and houses, are quite characteristic, well conserved and unique.

Of international interest is, also, the role the Wadden Sea played in international shipping. Through the ages, important routes went through the Wadden Sea. A prominent record of this history are the numerous ship wrecks in the Wadden Sea.

Status

The topography of the contemporary landscape is, to a large degree, determined by the way it was shaped by Man. The ditches and the cultivated landscape still follow the natural creek and lagoon system of the salt marshes. The roads are situated along the shores and the higher parts of the marshes and polders and the contour of the seawall determines the horizon. The Wadden Sea landscape is characterized as wide open, with the seawall as the delimitation between the dynamic processes of the tidal flats and salt marshes and the cultural landscape of the marshes and polders.

The cultural-historic and landscape values of the area are intimately related to the economic and social development of the coastal area and, by international standard, unique and unrivalled. The cultural historic and landscape values are equivalent to the area’s natural values and are an important basis for the development of tourism.
The cultural-historic and landscape heritage and the diversity between the regions are essential for the comprehension of the area’s development and identity and the inhabitants’ identification with the landscape. It entails a distinctive international dimension comparable to its natural values. Therefore, it was agreed at the Leeuwarden Conference in 1994 to pay attention to this aspect as the third dimension in the trilateral Wadden Sea cooperation, in addition to the natural and environmental dimensions. The integration of all three dimensions into a coherent policy and management is essential to ensure a sustainable development.

### Targets

- **Identity** - to preserve, restore and develop the elements that contribute to the character, or identity, of the landscape.
- **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.

### Assessment

The landscape and cultural-historic heritage of the Wadden Sea Area is under rapid transformation because of changes in agricultural practices, amongst others, changes in crops, enlargement of land parcels, urbanization and industrialization, and the associated construction of infra-structural installations. This development interferes with characteristic elements such as the openness, serenity and identity of the landscape, the topography of the landscape and the cultural-historic remnants.

The construction of wind turbines has increased significantly during recent years because the production of electricity from wind energy is particularly productive in the area. However, wind turbine installations also interfere with the landscape values.

The historic elements of the area are, to a lesser degree, under transformation, although, at the end of the last century and the start of this century, some of the historic elements of the area partly disappeared, e.g. the old dikes and mounds which were partly excavated for fertilizer.

### How to proceed

Because historic elements of the landscape and buildings are, to a considerable extent, protected by national legislation, the existing legal, administrative and planning instruments in the three countries should enable an integrated maintenance and development of the landscape, including proper planning of wind turbines. At the same time, the awareness of the unique cultural-historic and landscape values must be enhanced because it is important for the comprehension of, and the identity with, the landscape and cultural-historic values. The promotion of sustainable
cultural tourism may contribute to both enhancing the awareness of the said values and provide opportunities.

1.1 Trilateral policy and management

1.1.1 The nomination of the Wadden Sea Area, or parts thereof, as a World Heritage Site will be strived for, taking into account the natural and cultural-historic values of the area.

1.1.2 The cultural-historic and landscape elements of the Wadden Sea Area will be protected and conserved through appropriate planning and management.

1.1.3 The awareness of the area's cultural-historic and landscape values will be enhanced, where possible and appropriate, on a joint basis.

1.1.4 The construction of wind turbines in the Conservation Area is prohibited. (Identical with 9.1.9).

1.1.5 The construction of wind turbines, in the Wadden Sea Area outside the Conservation Area, is only allowed if important ecological and landscape values are not negatively affected. (Identical with 9.1.10).

1.2 Trilateral projects and actions

1.2.1 The preparation of a nomination of the Wadden Sea Area, or parts thereof, as a World Heritage Site (WHS) in close cooperation with the local and regional authorities, as well as, local interest groups and local citizens, taking into account i.a. the recommendations of the 1997 workshop on cultural-historical and landscape values.

1.2.2 An inventory and a map of the most important cultural-historical and landscape elements of the Wadden Sea area including
- an assessment of which elements should be maintained and developed and
- recommendations for the protection, taking into account the recommendations of the 1997 workshop on cultural-historical and landscape values.

The result of the investigation will be published in a report in each of the three languages to ensure that the information is easily accessible and will be widely dispersed.

1.2.3 An investigation on how the cultural and landscape features can be taken into account in Environmental Impact Assessments and an exchange of information on this.

1.2.4 An investigation of the possibilities of an initiative in the field of cultural tourism, in close cooperation with local authorities and relevant organizations.
The Wadden Sea is an open system. With the rising tide, marine water and sediment from the North Sea enter the Wadden Sea. Fresh water and sediments are discharged by a number of large rivers. The quality of water and sediment in the Wadden Sea is mainly determined by these external sources through which polluting substances enter the Wadden Sea. Atmospheric deposition is an additional source of pollution.

Pollutants are generally divided into three types, namely 'natural micro-pollutants', 'man-made micro-pollutants' and 'macro-pollutants'. The first class contains substances like heavy metals, which are not only produced by Man, but which also occur naturally in the environment, be it in low concentrations. The second class, the man-made substances, also called xenobiotics, contains substances like PCBs and pesticides. Macro-pollutants are substances which are of natural origin and can be found in relatively high concentrations in the (marine) environment. The most important ones are nutrients, in particular, phosphorus and nitrogen compounds. Micro-pollutants can have toxic effects on biota, for example, through interference with the reproductive system or the immune system. These effects can be aggravated through bio-accumulation and synergism.

Nutrients in excess concentrations and quantities may lead to increased primary production which, in turn, can cause negative effects like oxygen depletion as a result of decaying algal material, shifts in species composition and remobilization of micro-pollutants.

**Status**

The relatively high level of pollution of the Wadden Sea is caused by three main factors:

- A number of rivers, of which the catchment areas are highly industrialized and agronomized, flow into the Wadden Sea. The catchment areas add up to some 231,000 km² which is about 17 times the Wadden Sea Area. It extends to the southeast as far as the Chechian-Austrian border. Among the rivers are the Elbe, Weser, Ems and the IJssel, a branch of the Rhine. In addition, a substantial part of the Rhine water enters the Wadden Sea via the North Sea through a coastal flow along the Dutch coast. Rivers are by far the largest carrier of polluting substances from the land to the Wadden Sea. The German rivers Elbe, Weser and Ems, together with the Dutch IJsselmeer, each year discharge, on average, 60 km³ of polluted water into the Wadden Sea. The rivers transport heavy metals, PCBs and pesticides like lindane and large amounts of nutrients.

- Due to the net North Sea current, a substantial part of North Sea water and suspended particles - and consequently polluting substances - enter the Wadden Sea.
The Wadden Sea lies at the rim of northwestern Europe. A significant part of its pollution is caused by atmospheric deposition which originates from the highly industrialized northwestern and central European countries.

### Targets

- Background concentrations of natural micropollutants.
- Concentrations of man-made substances as resulting from zero discharges.
- A Wadden Sea which can be regarded as a eutrophication non-problem area.

### Assessment

Over the last two decades, the loads of toxic compounds discharged by rivers have decreased substantially. In the Wadden Sea itself, a general reduction in the concentration of regularly monitored pollutants, such as heavy metals and PCBs, can be observed.

The two most important nutrients are nitrogen compounds and phosphate. Of these, the concentrations of phosphate and, to a lesser extent, nitrogen compounds in the water of the Wadden Sea have started to decrease in the second half of the 1980s, mainly as a result of the use of phosphate free detergent and water purification. The fact that nitrogen inputs have not been reduced as much as phosphorus, has caused a shift in the relative concentrations of these nutrients. This may cause an increase in occurrence of toxic algae. It is not clear whether there are other biological consequences.

Many toxic compounds, such as heavy metals and PCBs, entering the Wadden Sea finally end up in the sediment, especially in fine-grained sediments. During dredging, special attention has to be paid to the pollution level of the dredged spoil. Moreover, dredging and dumping of dredged material may affect the visibility of the water column.

Shipping activities are a potential source of contamination with oil, garbage and hazardous substances. In the past years, several incidents have occurred of washed ashore chemicals and oil which originated from ships. The number of oiled birds washed ashore along the Wadden Sea coast remains high. In most cases, the oil originates from shipping. Atmospheric deposition is another major source of pollutant inputs of certain substances.

Recently, it was decided, within the IMO, that certain classes of ships carrying dangerous cargos should follow the mandatory route off the Wadden Sea coast of The Netherlands and Germany. It is the route from North Hinder to the German Bight and vice versa (Deepwater route) and it is mandatory for oil tankers larger than 10,000 gross tons (GT) and ships carrying noxious liquid substances or gases in bulk (≥ 5,000 or ≥ 10,000 tons GT). According to an EC Directive, vessels carrying hazardous goods entering European harbors are obligated to report to the competent authorities.
How to proceed

The trilateral policy and management, regarding pollution issues, is closely related to developments within the framework of the North Sea Conferences, the Oslo and Paris Conventions, the International Maritime Organization (IMO) and the European Union. It is within these frameworks that international agreements on pollution issues, relevant for the whole catchment area of the Wadden Sea Area, are made. The most relevant agreements are those of the North Sea Conferences and of the Paris Commission regarding a 50% reduction of nutrient inputs and a 50 to 70% reduction of inputs of hazardous substances between 1985 - 1995. In 1992, the Paris Commission decided to reduce, by the year 2000, pollution from discharges of compounds which are toxic, persistent and liable to bioaccumulate, to levels that are not harmful to man or nature, with the aim of their elimination. In 1995, the North Sea states agreed to prevent pollution by continuously reducing discharges, emissions and losses of hazardous substances, thereby, moving towards the target of their cessation within one generation (25 years); with the ultimate aim of concentrations in the environment near background values for naturally occurring substances, and close to zero for man-made synthetic substances (NSC Esbjerg, §17). Also, the MARPOL Convention is very important for the Wadden Sea because it regulates operational discharges of oil, garbage and hazardous substances from ships. In the IMO framework, furthermore, extensive regulations for the enhancement of safe ship traffic have been developed.

At the 7th Trilateral Wadden Sea Conference, it was agreed that regarding the Targets on the quality of water and sediment, it is the trilateral policy to strengthen the cooperation in relevant international frameworks to realize the Targets to reduce environmental pollution (LD §6.3). Where appropriate, such cooperation will be strengthened with the aim of further reducing, in particular, inputs of organic micro-pollutants and nitrogen.

Common Trilateral Statements were submitted to the North Sea Conferences in which the special interests and problems of the Wadden Sea have been elaborated in relation to the issues dealt with at the subsequent conferences. The coordination with the ongoing preparation of the North Sea Conferences and, regarding monitoring and assessment in OSPAR, is achieved by means of a permanent observship in the relevant working groups.

It is unclear to what extent the handling of dredging and the dumping of dredged material is comparable in the three Wadden Sea countries. In 1993, Guidelines on dredged material were published by the Oslo Commission. At the Esbjerg Wadden Sea Conference, it was agreed to cooperate in developing national criteria for dredging and disposal of dredged material in accordance with the Oslo Guidelines and to consider the need for harmonization (ED §9). In light of the importance of dredging and dumping activities for the Wadden Sea ecosystem, it seems appropriate to evaluate this decision with the aim of continuing the process of trilateral harmonization.

With regard to illegal discharges from ships, relevant developments in the North Sea Conference and IMO frameworks must be supported. At the Leeuwarden Conference, it was decided to invite competent authorities to take appropriate steps to minimize discharges into the sea, especially from recreational shipping, including systems for the operations of shore reception facilities as soon as possible, at the latest by 1996 (LD §64.4). In order to be able to evaluate this decision, it is necessary to have an overview of the availability and accessibility of shore reception facilities in Wadden Sea ports.
2.1 Trilateral policy and management

2.1.1 Trilateral policies for the reduction of inputs of nutrients and hazardous substances from all sources are congruent with those within the OSPAR and North Sea Conference frameworks.

2.1.2 In order to reduce nutrient inputs to the Wadden Sea, the measures for sensitive areas under the Urban Waste Water Directive and the measures for vulnerable zones under the conditions of the Nitrate Directive will be applied to the catchment area of the Wadden Sea in line with the Esbjerg North Sea Conference decision.

Pollution from ships

2.1.3 With the aim of eliminating operational pollution and minimizing accidental pollution, an information and guiding system for ships carrying hazardous substances will be established.

2.1.4 Harbors bordering the Wadden Sea will have adequate facilities to handle all types of residues and wastes generated by ships to meet the requirements of the MARPOL Convention.

2.1.5 To prevent spills of oil and hazardous substances to the aquatic environment and wildlife, activities aiming at improving enforcement (surveillance and prosecution) of agreed regulations and policies to combat illegal discharges will be continued.

Dredging and dumping of dredged material

2.1.6 The three countries will develop and apply national criteria with regard to dredging operations and disposal of dredged material. They will cooperate within the framework of existing international agreements and organizations by exchanging information about the main experiences with the implementation of these criteria.

2.1.7 Dredged material from the Wadden Sea Area and Wadden Sea harbors will, in principle, be dumped back into the system unless the contamination exceeds national criteria levels.

Discharges from oil and gas exploration and exploitation activities

2.1.8 The exploration and exploitation of the energy resources in the North Sea, as well as in the Wadden Sea Area, has to comply, at least, with the international agreements in the appropriate fora. This results i.a. in a prohibition to discharge oil-based muds and cuttings. Dumping or discharge of water based muds and/or cuttings is only allowed in line with relevant PARCOM agreements.

2.1.9 The leaching of toxic substances from protective coatings of pipelines and other installations will be avoided by the use of appropriate materials.

2.1.10 In the Conservation Area, offshore activities that have an adverse impact on the Wadden Sea environment will be limited and zero-discharges will be applied. In the Wadden Sea Area outside the Conservation Area, discharges of water-based muds and cuttings will be reduced as far as possible, by applying Best Available Techniques and by prohibiting the discharge of production water from production platforms.
2.2 Trilateral policy and management

2.2.1 The development of common Wadden Sea specific criteria for the differentiation between eutrophication problem- and non-problem areas necessary for assessing progress in the implementation of the Targets for the reduction of nutrients and, consequently, the reduction of eutrophication. The project will be carried out in close cooperation with the work going on in OSPAR regarding the development of a strategy to combat eutrophication.

2.2.2 An inventory and evaluation on information and guiding systems for ships carrying hazardous substances.

2.2.3 An inventory and evaluation of national practices regarding dredging and the dumping of dredge spoils with the aim of investigating whether harmonization is necessary and feasible.

2.2.4 An inventory and assessment of the availability and accessibility of shore reception facilities.
3 Salt Marshes

The habitat type salt marsh includes all mainland and island salt marshes, including the pioneer zone. The brackish marshes in the estuaries are also considered part of this habitat type (Leeuwarden Declaration Annex I).

Salt marshes are typical Wadden Sea habitats of great beauty, diversity and attractiveness for visitors to the Wadden Sea area and they are important and unique habitats. NATURALLY DEVELOPED SALT MARSHES have a drainage system of irregular, winding gullies, sometimes a pioneer zone, and - in the course of time - formations of salt marsh cliffs between older parts on the one side, and pioneer zones on the bordering tidal flats on the other. The remains of the natural salt marshes can be found on the landside of dune areas, and in some places, along the mainland coast.

ARTIFICIAL SALT MARSHES are salt marshes which have developed through active human interference, like shelter, by means of brush wood groynes. They are mainly situated in places where natural developments would not have led to salt marsh formation.

SUMMER POLDERS are embanked parts of the salt marshes with dikes that are high enough to prevent flooding during the growing season. The frequency of inundation varies between only once per 2 or 3 years to several times per year, depending on the height of the dikes. Remains of natural gullies and salt marsh cliffs can sometimes be found. When inundation takes place during winter, the influence of the sea water on the vegetation is often negligible. The soil is saturated with fresh water and the sea water is drained off very rapidly within a few days after flooding.

Status

The present salt marsh area is, mainly as a result of embankments, much smaller than it used to be. Moreover, many of the remaining salt marshes are heavily influenced by human use. With the exception of some locations in Denmark and Lower Saxony, almost all natural mainland salt marshes have been embanked in the past, some only as a summer polder, but most of them as polders on the land side of a sea dike. Salt marshes and summer dikes are important elements of the coastal protection strategy.

Most of the artificial salt marshes on the Wadden Sea islands have an almost natural geomorphology, whereas most mainland artificial salt marshes have a geomorphology that is dominated by human structures: brushwood groynes, ditches and ground dams.

The artificial salt marshes are considered an additional advantage resulting from embankments, although created at the expense of natural tidal areas.
**Targets**

<table>
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<th>Targets</th>
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<tbody>
<tr>
<td>An increased area of natural salt marshes.</td>
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<tr>
<td>An increased natural morphology and dynamics, including natural drainage patterns of artificial salt marshes, under the condition that the present surface area is not reduced.</td>
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<tr>
<td>an improved natural vegetation structure, including the pioneer zone, of artificial salt marshes.</td>
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<tr>
<td>Favorable conditions for migrating and breeding birds.</td>
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</table>

**Assessment**

Large areas of natural and artificial salt marshes have been embanked in the past. This has not only caused a considerable loss of this typical Wadden Sea habitat, but also reduced the volume of the tidal basin considerably. These losses have been compensated for, at least partly, on the islands where new salt marshes developed in the shelter of sand dikes and on the mainland through the stimulation of sedimentation. Most of the island salt marshes have developed in a natural way, whereas the mainland salt marshes must be regarded as largely artificial.

The main interference with the natural development of salt marshes and summer polders is caused by coastal protection and land reclamation activities. The intensive drainage of the ‘normal’ management practice of the land reclamation areas is, at least partly, beneficial for agriculture. Agricultural activities, mainly grazing and drainage, but also the application of fertilizer and pesticides, affect the natural vegetation structure and, consequently, the faunal composition.

The effects of a reduction of the volume of the tidal basin, in the light of sea level rise and bottom subsidence, are not quite well understood. There is, however, the danger that these combined processes will cause a reduction of the area of tidal flats. There are indications that this might result in some areas in the reduction of the area of the salt marshes.

**How to proceed**

The possibilities for the development of new natural salt marshes are restricted. The best way to increase the area of natural salt marshes is through improving natural conditions in existing salt marshes. The natural morphology and dynamics of the salt marshes must be enhanced through reduction of interference with natural processes. For example, artificial drainage systems should be modified in such a way that they become self sustaining. In order to improve the natural vegetation structure and the conditions for birds, the grazing pressure must, where necessary, be reduced. Disturbance of birds through hunting and recreational activities should be reduced as much as possible. Outbankment of summer polders, excluding the summer dikes of the Halligen, because these protect the inhabitants, is a very good instrument to enlarge the salt marsh region, provided
socio-economic and coastal protection aspects are considered as well. It can yield salt marsh areas without interference with natural geomorphological processes. Ecologically valuable habitats can be restored, in case of summer polders, on relatively old and high salt marshes. Such salt marshes are rare and their restoration is of utmost importance for the restoration of the total richness of the mainland salt marsh habitats.

3.1 Trilateral policy and management

3.1.1 The general trilateral policy regarding salt marshes aims at adequately protecting salt marshes in order to allow natural processes to take place within this habitat, with special emphasis on flora and fauna. To this end, all salt marshes shall be brought under legal protection, insofar has not yet been done, and Best Environmental Practice will be applied in salt marsh protection and development, taking account of experiences with local concepts and measures.

Salt Marsh Area

3.1.2 The trilateral policy takes as starting point that the present area of salt marshes will not be reduced and that, where possible, the area of natural salt marshes will be extended.

3.1.3 The long-term goal is to limit human interference with the salt marshes, except for the edges of the marshes which may need protection against erosion. In working towards this long-term goal, the interest of cultural history, coastal protection and private rights should be taken into account.

3.1.4 The present artificial salt marsh area can be protected against erosion because the size of the land reclamation salt marshes along the mainland is, generally, still far below the total size of the mainland salt marshes in a more natural situation without sea walls.

3.1.5 An increase of the salt marsh area will be aimed for through the restoration of salt marshes by opening summer dikes, provided that it is in line with the Targets for the region, socio-economic conditions and coastal protection requirements. The Halligen are protected by summer dikes for the security of the inhabitants. There is no intention to open these dikes.

Coastal Protection

3.1.6 The interests of nature protection and sea defence measures will be further harmonized, taking into account that the safety of the inhabitants is essential.

3.1.7 As a principle, it is prohibited to embank salt marshes and loss of biotopes through sea defence measures will be minimized. Reinforcement of existing dikes will be carried out on the location of existing dikes and, preferably, on the land side. (Reference to 4.1.2).

3.1.8 The application of Best Environmental Practices for coastal protection will be enhanced.

3.1.9 In general, clay for sea defence will be extracted behind the dikes. In special cases, i.e. where there is urgent and sudden need and if no other deposits behind the dikes are available, or if the extraction of suitable material is ecologically balanced, the extraction of clay may be allowed in front of the dike. In this case, the extraction shall be carried out in such a way that
the environmental impact is kept to a minimum and permanent or long lasting effects are avoided and, if this is not possible, compensated.

Natural Dynamics

3.1.10 The natural drainage of salt marshes will be increased by reducing drainage works where possible and practicable and by introducing more environmentally friendly digging methods.

3.1.11 It is the aim to reduce and/or diversify grazing in order to increase the diversity of vegetation and associated animal species in salt marshes, with the exception of those areas where grazing is necessary for coastal protection measures.

3.1.12 It is the aim to reduce disturbance caused by recreation and tourism by introducing and applying information systems and/or temporal and spatial zoning. (Identical with 5.1.8).

3.1.13 The application of natural and artificial fertilizers and pesticides and other toxic substances on the salt marshes will be stopped.

Infrastructural works

3.1.14 New infrastructural works which have a permanent or long-lasting impact should not be established in salt marshes.

3.1.15 Infrastructural works which are necessary for the supply of the islands and the Halligen with, amongst others, gas, water and electricity, or other utilities, shall be carried out in a way that the environmental impact on the Wadden Sea is kept to a minimum and permanent, or long lasting, impacts are avoided. (Identical with 4.1.14).

3.1.16 New licenses for the construction of pipelines in the salt marshes for the transport of gas and oil shall not be issued unless such measures are necessary for imperative reasons of overriding public interest. In that case, the method of construction and the planning of the location line shall be such that the environmental impact on the Wadden Sea ecosystem is kept to a minimum and permanent, or long lasting, negative impacts are avoided. (Reference to 4.1.13).

3.2 Trilateral projects and actions

3.2.1 A study into the possible effects of enhanced sea level rise by a Trilateral Expert Group to be established under the coordination responsibility of the competent authorities and, on the basis of these studies, the development of proposals for future integrated coastal defence and nature protection policies. (Identical with 4.2.1, 5.2.2, 7.2.1).

3.2.2 The investigation of existing salt marsh maintenance works and methods and possibilities for enhancing more natural drainage patterns.

3.2.3 The investigation of existing agricultural use of the salt marshes and methods for improving the quality of the salt marshes.
4 Tidal Area

The tidal area covers all tidal flats and subtidal areas. The border of the North Sea side is determined by an artificial line between the tips of the islands. The borders to the estuaries are determined by the average 10‰ isohaline at high water in the winter situation (Leeuwarden Declaration Annex I).

The tidal area is the most characteristic habitat of the Wadden Sea. It is characterized by an ever changing pattern of plates and gullies. At low tide, the tidal flats cover about two thirds of the tidal area. The tidal flats of the Wadden Sea form the largest unbroken stretch of mudflats in the world.

Status

As a result of the daily tides and the open connection with the North Sea, the tidal area is a very dynamic area.
Characteristic biological features of the tidal area are, amongst others, mussel beds, Sabellaria reefs and Zostera fields. The tidal area is subject to natural impacts like ice winters, strong gales, changes in average temperature, visibility and parasites. Additionally, there is the influence of Man through, amongst others, fisheries, dredging, offshore activities and coastal protection measures.

At low tide, the tidal flats are important feeding, roosting and/or moulting areas for birds and seals. The high biological productivity of the tidal area is, also, in part, the basis for shellfish fisheries and mussel cultures.

Next to fisheries, recreation is an important activity in the tidal area; the main recreational activities are mudflat walking and boating.
Parts of the tidal areas constitute the seaward access to harbors. Management of these marine navigation routes is in the interest of the public and is regulated nationally.
## Targets

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>A natural dynamic situation in the tidal area.</td>
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<tr>
<td>An increased area of geomorphologically and biologically undisturbed tidal flats and subtidal areas.</td>
</tr>
<tr>
<td>An increased area and a more natural distribution and development of natural mussel beds, Sabellaria reefs and Zostera fields.</td>
</tr>
<tr>
<td>Viable stocks and a natural reproduction capacity, including juvenile survival, of the Common Seal and the Grey Seal.</td>
</tr>
<tr>
<td>Favorable conditions for migrating and breeding birds.</td>
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</table>

## Assessment

The natural dynamics of the tidal area have been considerably influenced by land reclamation and the construction of dikes and other coastal defence works. These have caused a substantial reduction of the volume of the tidal basin. Also, the dredging of shipping lanes, sand extraction and natural gas extraction influence the natural dynamics in the tidal area.

The tidal area is a sediment importing system and has, therefore, been able to compensate for the subsidence of the sea bottom. The sea level rise caused by the greenhouse effect will most probably increase the sediment importing demands. The exploitation of natural gas in and around the Wadden Sea area, causes an additional subsidence of the sea floor and aggravates the effects of sea level rise. The extraction of sand from the Wadden Sea for commercial purposes also has a negative effect on the sand balance. There is an important link with the offshore zone because sand is imported from this area. This will affect the sandy coast of the islands which will become steeper.

Also important for the sand balance in the Wadden Sea, is the water circulation pattern which, in turn, has been, and still is, influenced by land reclamation and coastal defence activities. There are indications that embankments and the shortening of the coastline have decreased the amount of available fine sediments and the possibilities for the sedimentation of fine sediments.

Several human activities, especially cockle and mussel fisheries, dredging and sand and shell extraction, disturb the sediment. This may cause temporal or structural changes in the sediment morphology and biology, a reduction of sediment stability, and an increased turbidity of the water column. Mussel culture can have large effects on the habitat structure of subtidal and intertidal areas.

Disturbance may interfere with the normal behavior of animals. The actual impact depends on the level and duration of the disturbance and the period in which it occurs. Human uses which cause disturbance, and for which trilateral political agreements have been adopted, are fisheries, hunting, recreation, shipping, civil air traffic, military activities, mineral extraction and the generation of energy.

A characteristic feature of the Wadden Sea tidal area is its high biological productivity which is
the main reason for the fact that the Wadden Sea is an important nursery area for North Sea fish and for the high numbers of breeding and migrating birds which feed in the area. Shellfish fisheries may interfere with the normal food availability of certain bird species. This interference may have consequences for the food availability in years with low shellfish stocks.

In the last decade, a serious decrease in the numbers and size of mature mussel beds has occurred, mainly in the Dutch and Lower Saxony part of the Wadden Sea. Fishing for seed mussels is an important factor in this decline, but also, ice winters and storms play a role. It is unclear what the main causes for the decline in Sabellaria reefs and seagrass meadows have been.

How to proceed

In the framework of the trilateral cooperation, a large number of measures to counteract the negative effects of human presence in the area and the exploitation of natural and mineral resources has been agreed upon.

In light of the expected sea level rise resulting from the greenhouse effect, additional or amended policies are desirable for the management of the tidal basin. Such policies must be carefully tuned with those concerning the dynamic situation in the offshore area, beaches and dunes, salt marshes and estuaries.

Furthermore a better management of characteristic tidal area communities, especially wild mussel beds, Zostera fields and Sabellaria reefs is necessary for a proper implementation of the relevant Targets. The management of seals in the tidal area is covered by the Seal Management Plan. This plan will be amended and updated at regular intervals.

4.1 Trilateral policy and management

Natural dynamics and coastal protection

4.1.1 Because the natural dynamics in the tidal area are directly related to coastal defence activities on the mainland coast, the islands and the offshore zone, future coastal protection policies will, as a principle, be based on these interrelationships.

4.1.2 Embankments of tidal areas will, as a principle, be prohibited and the loss of biotopes through sea defence measures minimized. Reinforcement of existing dikes will be carried out on the location of existing dikes and, preferably, on the land side. (Reference to 3.1.7).

4.1.3 Permission for small-scale modifications of jetties, piers and other infrastructural works along the Wadden Sea coast shall only be given after a careful review of all interests.

4.1.4 Permission for new permanent structures, which may influence the natural dynamics in the tidal area of the Conservation Area, will not be granted unless for imperative reasons of overriding public interest and if no alternative can be found. Permission for new permanent structures, which are likely to have significant effects on the natural dynamics in the tidal area outside the Conservation Area, will only be granted after having been made subject to an assessment in accordance with the EC Directive on Environmental Impact Assessment. All construction shall be carried out in such a way that the environmental impact is kept to a
minimum and permanent, or long lasting, effects are avoided and, if this is not possible, compensated.

Shipping, harbors and industrial facilities

4.1.5 The extension, or major modification, of existing harbor and industrial facilities and new construction shall be carried out in such a way that the environmental impact is kept to a minimum and permanent, or long lasting, effects are avoided and, if this is not possible, compensated. In the Conservation Area, new not yet approved plans for new construction, as well as for the extension or major modification of existing harbor and industrial facilities, are not allowed unless such is necessary for imperative reasons of overriding public interest and if no alternative can be found. (Identical with 6.1.1).

4.1.6 Shipping routes and harbors are to be managed for their intended purposes; in doing so, negative impacts should be avoided, as far as possible. Navigation dredging operations should aim at allowing natural processes to run their course, as far as possible.

4.1.7 New shipping routes to the harbors and the Wadden Sea islands will, in principle, not be dredged unless the present routes threaten to disappear.

4.1.8 Shipping links across the water shed3 and other routes exist by virtue of natural dynamics. For such routes, in principle, no dredging operations will be carried out.

4.1.9 Speed limits within the tidal area have been, or will be, imposed where such is deemed necessary.

Mineral extraction and infrastructure

4.1.10 In the Conservation Area, new exploitation installations for oil and gas will not be permitted. Exploration activities are permitted within the Conservation Area if it is reasonably plausible that deposits can be exploited from outside the Conservation Area. Net loss of nature value must be prevented. Therefore, exploration activities will be regulated in space and time. Associated studies, mitigation and compensation measures should be carried out where appropriate.

4.1.11 The extraction of sand in the Conservation Area will be limited to the dredging and maintenance of shipping lanes. This sand can be used for, inter alia, sea defence purposes. In specific cases, sand may also be extracted for sea defence purposes.

The extraction of sand in the Wadden Sea Area outside the Conservation Area should make maximum use of sand generated by the maintenance of shipping lanes. It should be carried out in such a way that the environmental impact is kept to a minimum and permanent, or long lasting, effects are avoided and, if this is not possible, compensated.

4.1.12 Permits for small scale extractions of sand will remain in force. Small scale extractions of mud and sea water for medical purposes will remain permitted.

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3 Watershed is translated in Danish into “vandskel”, in German into “Wattrücken” and in Dutch into “wantij”
4.1.13 The construction and planning of pipelines shall be such that the environmental impact on the Wadden Sea ecosystem is kept to a minimum and permanent, or long lasting, negative impacts are avoided, and if this is not possible, compensated. In the Conservation Area, new licenses for the construction of pipelines in the tidal area for the transport of gas and oil shall not be issued unless such measures are necessary for imperative reasons of overriding public interest and if no alternative can be found. (Reference to 3.1.16).

4.1.14 Infrastructural works which are necessary for the supply of the islands and the Halligen with, amongst others, gas, water and electricity, or other utilities, shall be carried out in a way that the environmental impact on the Wadden Sea is kept to a minimum and permanent, or long lasting, impacts are avoided. (Identical with 3.1.15).

Dredged material

4.1.15 The impact of dumping dredged materials will be minimized. Criteria are, amongst others, appropriate dumping sites and/or dumping periods. (Identical with 6.1.3).

Mussel and cockle fishery

4.1.16 The negative effects of cockle fishery are being limited by:
- Cockle fishery is not allowed in the German part of the Conservation Area;
- Cockle fishery is not allowed in the Danish part of the Wadden Sea Area, with the exception of some small areas along the Esbjerg shipping lane and in the Ho Bay;
- Cockle fishery is allowed in the Dutch part of the Wadden Sea Area, but has been limited by the permanent closure of considerable areas; there are possibilities for additional restrictions to safeguard food for birds. A co-management scheme with the fishing industry is in operation, in which the protection and enhancement of the growth of wild mussel beds and Zostera fields are central elements. (Identical with 9.1.3).

4.1.17 The negative effects of mussel fishery are limited by the permanent closure of considerable areas. In addition, the management of fishery on mussels aims at, inter alia, protecting and enhancing the growth of wild mussel beds and Zostera fields. (Identical with 9.1.4).

4.1.18 Mussel fishery will, in principle, be limited to the subtidal area. Based on national management plans, which are documented in the Progress Report, fishery on the tidal flats may be granted. The fishery sector is called upon to exchange information on the existing practices and to investigate possibilities for minimizing impacts of mussel fishery, in general and seed mussel fishery, in particular. (Identical with 9.1.5).

4.1.19 The current area of mussel culture lots will not be enlarged.

4.1.20 The existing permit for oyster culture will remain in force for traditional reasons. According to this permit, the imported oysters originate from hatcheries and are under veterinary control. New permits will not be granted.

Tourism and recreation

4.1.21 The recreational values of the Wadden Sea will be maintained and to this end,
- in the ecologically most sensitive areas, zones have been or will be established where no recreational activities, including excursion ships and recreational boating, is allowed;
- the use of jet skis, water skis and similar motorized equipment has been, or will be, prohibited, or limited, to small designated areas;
- within the Conservation Area, new marinas will be avoided and the extension of the existing marina capacity will only be allowed within the approved levels;
- wind surfing has been, or will be, limited.

4.1.22 Speed limits for ships have been, or will be, imposed, if this is deemed necessary, taking into account safety, environmental and recreational factors.

4.1.23 The negative effects of hovercraft and hydrofoil craft and other high-speed craft are minimized by the following strategies:
- In The Netherlands and Germany, hovercraft and hydrofoil craft are forbidden in the tidal area of the Conservation Area; new, other high speed craft are forbidden outside the designated shipping routes in the area;
- In Denmark, applications for new, high-speed craft can only be granted on the basis of an Environmental Impact Assessment and if it is not in conflict with the nature protection targets for the area.

4.1.24 It is the aim to reduce disturbance caused by recreation and tourism by introducing and applying information systems and/or temporal and spatial zoning.

### 4.2 Trilateral projects and actions

4.2.1 A study into the possible effects of enhanced sea level rise by a Trilateral Expert Group to be established under the coordination responsibility of the competent authorities and, on the basis of these studies, the development of proposals for future integrated coastal defence and nature protection policies. (Identical with 3.2.1, 5.2.2 and 7.2.1).

4.2.2 The development of strategies for the protection and enhancement of Zostera and Sabellaria on the basis of existing and new knowledge, in view of the not yet completely understood decline of these species.

4.2.3 The investigation of possibilities and conditions for enhancing the growth of natural mussel and cockle beds, Sabellaria reefs and Zostera fields.

4.2.4 The investigation of the impact of shrimp fisheries on the bottom fauna.

4.2.5 A study into the shell production in the total system, up to three nautical miles seaward of the islands, to obtain information on natural recruitment of shells, on the basis of which new quota for sustainable shell extraction will be fixed.

4.2.6 An invitation to the Permanent Dutch-German Transboundary Waters Commission to make progress, within their mandate, in elaborating a specific action plan for the Ems Dollard estuary.

4.2.7 An inventory and evaluation of national practices regarding the dredging of shipping routes.
5 Beaches and Dunes

Beaches and dunes include beaches, primary dunes, beach plains, primary dune valleys, secondary dunes and heathland behind the dunes (Leeuwarden Declaration Annex I). Most beaches and dunes are situated on the North Sea side of the barrier islands. Mainland beaches and dunes can be found on the Skallingen and Eiderstedt peninsulas and the Husumer Bucht.

Status

Dunes and beaches have an important coastal protection function. In most parts of the Wadden Sea Area dunes are protected. The dynamics of the coastal zone have been restricted, especially in the neighborhood of inhabited areas, buildings and other artificial structures. The desire for safer, arable and inhabitable land has also led to the construction of sand dikes between neighboring dune areas or the construction of long sand dikes on the east side of islands. The result has been a considerable loss of dynamic areas and the loss of relatively rare sub-habitats, like green beach plains and primary dune valleys.

Large parts of our stable dune regions must have been overgrazed in former times, resulting in a very dynamic, but not natural, situation. This situation has changed completely. Most of the older dunes are consolidated now, partly covered by pine wood plantations, and sand transport by wind is restricted by sea defence measures. Most old dunes are erosion-free now, just being, more or less, fossil bodies with aging vegetation, without the natural renewal of secondary dune formation.

Water extraction on many of the islands has caused a lowering of the ground water table and, consequently, the disappearance of wet dune valleys with their typical vegetation. The dune vegetation is negatively affected by the input of nutrients from the air. Dunes and beaches are attractive sites for tourists. Intensive use may cause damage to the vegetation and disturbance of animals.

Targets

| Increased natural dynamics of beaches, primary dunes, beach plains and primary dune valleys in connection with the offshore zone. |
| An increased presence of a complete natural vegetation succession. |
| Favorable conditions for migrating and breeding birds. |
Assessment

Existing policies focus, mainly, on the protection and conservation of dunes and beaches and the harmonization of nature protection and sea defence policies. These policies have, generally, fixed the status quo. Recreational pressure, in some areas, still causes loss of natural dunes and beaches, disturbance of flora and fauna and a lowering of the ground water table through increased ground water extraction. The only two threatened breeding bird species in the Wadden Sea Area, the Kentish Plover and the Little Tern, breed on beaches.

How to proceed

In order to implement the Targets on increased natural dynamics and natural vegetation succession, a more active policy is necessary, promoting coastal protection techniques which allow for higher natural dynamics. In addition, active stimulation measures enhancing the dynamic situation on beaches and in dunes may be taken. Coastal management must be carefully tuned to natural values and natural processes.

Additional protection of beach breeding species may be achieved through relatively simple zoning measures limited in space and time. From these, also the Grey Seal, which whelps and nurses on sands, may profit. Efforts should be made to extend the protection of dune areas in the Wadden Sea Area.

5.1 Trilateral policy and management

5.1.1 Dunes will be brought under protection, insofar as this has not yet been done and natural processes are allowed to take place within this habitat, with special emphasis on flora and fauna. To this end, Best Environmental Practice will be applied in dune protection and development.

5.1.2 The interests of nature protection and sea defence measures will be further harmonized, taking into account that the safety of the inhabitants is essential.

5.1.3 For beaches, the trilateral policy takes into account the demands of recreation and tourism, coastal protection and natural values, like high geomorphological dynamics and important breeding areas. Where possible, the natural situation should be increased by ‘hands-off management’.

5.1.4 In order to prevent a further loss of dune areas, the existing infrastructure will, in principle, not be extended and new constructions will, in principle, not be allowed.

5.1.5 Coastal management should aim at a natural dynamic development taking into account the necessity to protect the security of the inhabitants on the islands and safeguarding the stability and the infrastructure of the islands.

5.1.6 The loss of biotopes by sea defence measures will be minimized.

5.1.7 In case coastal protection is carried out, Best Environmental Practice will be applied.

5.1.8 It is the aim to reduce disturbance caused by recreation and tourism by introducing and applying information systems and/or temporal and spatial zoning. (Identical with 3.1.12).
5.1.9 It is important to restore the natural dynamics. This could be done by e.g.
- allowing sand drift,
- restoring natural dune vegetation,
as far as coastal protection is not affected.

5.1.10 Ground water extraction will be managed in such a way that no negative effects on wet
dune valleys occur.

5.2 Trilateral policy and management

5.2.1 The selection of potential areas where dynamic dune development is possible and the
elaboration of plans for stimulating and improving a dynamic development on the basis of available
information.

5.2.2 A study into the possible effects of enhanced sea level rise by a Trilateral Expert Group
to be established under the coordination responsibility of the competent authorities and, on the
basis of these studies, the development of proposals for future integrated coastal defence and
nature protection policies. (Identical with 3.2.1, 4.2.1 and 7.2.1).

5.2.3 The encouragement of experiments with offshore sand suppletion.

5.2.4 An inventory and assessment of existing Best Environmental Practices for coastal
protection.
6 Estuaries

The estuaries in the trilateral cooperation are delimited on the landward side by the mean brackish water limit, and on the seaward side by the average 10‰ isohaline at high water in the winter situation. In terms of the Wadden Sea Area, the estuarine areas are thus the areas between the 10‰, isohaline as defined at the sea side up to the mean brackish water limit of the rivers, and at the landward side of the rivers, the areas outside of the main dikes or, where the main dike is absent, the spring-high-tide-water line including the corresponding inland areas to the designated Ramsar and/or EC-Bird Directive areas.

Estuaries include the river mouths with a natural water exchange with the Wadden Sea. Such brackish areas belong to the transition zone between rivers and tidal waters. There are four such estuaries in the Wadden Sea Area with 'open access' to the Wadden Sea, namely the Varde Å in the Danish Wadden Sea Area and the Elbe, the Weser and the Ems in the German Wadden Sea Area, whereas no estuaries have been preserved in the Dutch part.

Status

The estuaries serve as a migration route for migrating fish like Houting, Salmon, Trout and Sturgeon. They are bordered by salt marshes in which Reed and Sea Club-rush can dominate large areas, instead of Sea-purslane and other salt marsh species. The flocculation of clay minerals stands for a muddy soil, with a benthic fauna that suits the needs of birds like Avocet, Redshank and Spotted Redshank. The brackish salt marsh vegetation produces more biomass than any other salt marsh, attracting large numbers of ducks and geese that feed on the vegetation and the seeds that are released during the autumn.

Brackish areas are also important inundation areas. Many of these brackish salt marshes have been reclaimed and several river outflows (especially the smaller ones) have sluices that prevent natural mixing of fresh and salt water and the establishment of transition zones. In The Netherlands, initiatives have been taken to modify sluicing regimes aiming at achieving more natural transitions between fresh and salt water.

The estuaries of the rivers Elbe, Weser and Ems constitute the seaward access routes to the major German sea ports. Management of these marine navigation routes is a matter of public interest and regulated by law. The Elbe and the Weser estuaries are among the most industrialized regions of the Wadden Sea Area. The Varde Å estuary has morphologically remained in its natural state, but is subject to a very intensive agricultural exploitation.
**Targets**

Protection of valuable parts of the estuaries.

Maintaining and, as far as possible, restoring the river banks in their natural state.

**Assessment**

The ecological importance of the river Ems is, in comparison with the other estuaries, to be valued as high, with a good water and sediment quality. The situation has been aggravated over the last ten years i. a. with the deepening of the river and the associated ecological impacts. In spite of increasing shore protection with artificial constructions, the river foreshore is in a semi-natural state with a relatively extensive agricultural use.

The development of the Weser estuary for shipping, the embankment of river banks and harbor and industrial developments have resulted in significant alterations in morphology, hydrography, flora and fauna. One of the consequences is that the deposit of mud in the outer part of the estuary is larger than in the natural situation and also, that a cloud of dispersed material has emerged.

Dredging and embankment of the river Elbe, and the concomitant developing of industries and harbors in the area, have significantly changed the ecological system. There are only very few sites in the estuary which can be regarded as natural or undisturbed. The remaining foreshore areas are protected by artificial groins and may be defined as semi-natural foreshore areas.

The Varde Å estuary has been maintained unregulated, whereas the agricultural use of the marshes and meadows has been intensified.

**How to proceed**

The relevant policies for water and sediment and brackish marshes also apply to the relevant elements of the estuaries.

In considerable parts of the German estuaries, human use has the priority. Shipping routes and harbors are to be managed for their intended purposes. It is, nevertheless, necessary to maintain and restore ecological functions of the estuaries. To this end, a concept is currently being worked out for the German estuaries with the aim to examine possibilities for protection of valuable parts and maintain and, as far as possible, restore the river banks to their natural state.

In the Varde Å estuary, an extensification of the current agricultural use is the aim and a restoration project has been initiated.

Assessments of the environmental impacts of new activities, compensation and mitigation, and restoration projects are central elements in policy and management. Where necessary, the protection of valuable parts of the estuaries not yet protected must be undertaken.

The sluicing regime must be modified in some areas to obtain a more regular volume of fresh water drained off from the mainland and to ensure better opportunities for migrating fish.
6.1 Trilateral policy and management

The policies for important elements of the estuaries, i.e. the water, the salt and brackish marshes, and the rural area, have been formulated in Chapter 2, 3, 8 and 9 respectively. The relevant parts of these policies also apply to valuable parts of estuaries. It concerns here, in particular, dumping of dredged material, agriculture, hunting, fisheries, recreation and energy.

6.1.1 The extension, or major modification, of existing harbor and industrial facilities and new construction shall be carried out in such a way that the environmental impact is kept to a minimum and permanent, or long lasting, effects are avoided and, if this is not possible, compensated. In the Conservation Area, new, not yet approved plans for new construction, as well as for the extension or major modification of existing harbor and industrial facilities, are not allowed unless such is necessary for imperative reasons of overriding public interest and if no alternative can be found. (Identical with 4.1.5).

6.1.2 The deepening of shipping lanes in the estuaries will be carried out in conjunction with an overall assessment of how to compensate and mitigate the measures.

6.1.3 The impact of dumping dredged materials will be minimized. Criteria are, amongst others, appropriate dumping sites and/or dumping periods. (Identical with 4.1.15).

6.1.4 Valuable parts of the estuaries will be protected and river banks will remain and be restored in their natural state, as far as possible.

6.1.5 The transition zone between fresh and salt water should be as natural as possible.

6.2 Trilateral projects and actions

6.2.1 A joint report of existing inventories and their results to determine the valuable parts including river banks and the legal and/or administrative protection of valuable areas in the estuaries. The results will be discussed on a trilateral level, for example, to determine possibilities for restoration projects including the restoration of transition zones.

6.2.2 The results of a Dutch study into the best locations for the restoration of estuarine transition zones (potential areas: Westerwoldsche Aa, IJsselmeer, Amstelmeer, Lauwersmeer and polders) where fresh/salt water exchange takes place (pumping stations) will be evaluated, after which additional measures might be taken.

6.2.3 In Lower Saxony, a concept is currently being worked out for the German estuaries with the aim to examine possibilities for the protection of valuable parts and maintain and, as far as possible, restore the river banks to their natural state.

6.2.4 A trilateral evaluation of the results of the above mentioned studies which will be taken into consideration in the further elaboration of the Plan.

6.2.5 The initiation of a project, in close cooperation with responsible port authorities, with the aim of investigating how harbor developments and environmental protection can be reconciled.
6.2.6 The evaluation of the running reintroduction project of the Houting in Denmark and Schleswig-Holstein and the consideration of further actions in other rivers of the Wadden Sea.

6.2.7 The restoration of the Varde Å estuary through extensifying agricultural use and restoring natural hydrological conditions.
7 Offshore Area

The offshore zone ranges from the 3-sea-mile line to an artificial line connecting the outer tips of the islands. The border between the offshore zone and the beaches on the islands is determined by the average low-tide-water mark (Leeuwarden Declaration Annex I).

**Status**

The natural morphology of the offshore zone is closely related to the natural dynamics in the tidal area and the beaches and dunes: there is a net transport of sand from the North Sea up till the 20 m isobath, into the Wadden Sea and this transport is determined by the overall water circulation. The area is important for foraging and moulting ducks, for seals and Harbour Porpoises.

There is little experience within the trilateral cooperation with the management of the offshore area. Parts of the German national parks are situated in the offshore area. The whole of the Danish offshore part of the Wadden Sea Area has a protected status. In the Schleswig-Holstein part, oil and gas exploration and exploitation are allowed only in the concession area of the Mittelplate.

In the Danish offshore area, shell fishery on species other than mussel, cockle and shrimp, is not allowed. In those parts of the German offshore area which belong to the national parks, the extraction of sand is, in principle, not allowed. As to cockle fishery, it is not planned to grant permits. Further restrictions to human use have not been imposed.

The offshore area in The Netherlands, as a part of a zone up to the 20 m isobath, is defined as the Environmental Zone: an area for which a special level of protection is offered in order to contribute to the protection, recovery and development of the entire North Sea and Wadden Sea ecosystems.

**Targets**

- An increased natural morphology, including the outer deltas between the islands.
- A favorable food availability for birds.
- Viable stocks and a natural reproduction capacity of the common seal, grey seal and harbour porpoise.
Assessment

Because the natural dynamics in the tidal area are directly related to coastal defence activities on the mainland coast, the islands and the offshore zone, future coastal protection policies should, as a principle, be based on these currently better understood interrelationships and taken into account in coastal protection management.

The extraction of sand is not, in all cases, regulated on the basis of the importance of the offshore area and, more specifically, the area up till the 20 m isobath, for the overall Wadden Sea sand balance.

The offshore zone is important for birds in periods of food shortage. Safeguarding the food situation of (diving) birds is closely connected to the shellfish fishery in the area (e.g. Spisula fishery). At the Leeuwarden Conference, it was therefore decided to investigate shellfish stocks (e.g. Spisula) and the impact of fishery on the benthic stocks outside the islands and, depending on the outcome, discuss the results on a trilateral basis with the aim of safeguarding the food stocks for birds (LD §54).

It was, furthermore, decided to investigate the possibilities of a common research project on the effects of shrimp fishery (including industrial shrimp fishery) and flatfish fishery on the bottom fauna, within the realm of national competencies, with the aim to define trilateral proposals in 1997, and to consider, depending on the outcome of the investigations, further regulations, including the possibility of closing parts of the German and the Dutch Wadden Sea (LD §51).

As has become clear from the recently finalized Joint Seal Project, Common Seals spend part of their time in a zone up to 20 km offshore. Harbour Porpoises appear in considerable numbers in the adjacent coastal part of the North Sea, especially in winter, partly in spring. The Schleswig-Holstein offshore area near Sylt seems to have become an important rearing area for Harbour Porpoises.

How to proceed

Because of the interactions between hydrological and geomorphological processes in the offshore zone, the dunes and beaches, the tidal area and the salt marshes, policies aiming at increasing the natural dynamic situation in these habitats need to be tuned carefully.

Policies for safeguarding the food situation for birds are necessary for the whole offshore area and will be developed on the basis of the results of currently running research projects.

The management of seals in the offshore area is covered by the Seal Management Plan (see Chapter 10). This plan will be amended and updated at regular intervals.

In view of the high numbers of Harbour Porpoises in the offshore area, policies aiming at stimulating this development, especially in rearing areas, will be initiated.

7.1 Trilateral policy and management

7.1.1 Future coastal protection policies will, as a principle, be based on an integrated approach to coastal defence activities on the mainland coast, the islands and the offshore zone.
7.1.2 Increased attention will be given to the role of the offshore zone in the total Wadden Sea sand balance.

7.1.3 Sand extraction will only be carried out from outside the Wadden Sea Area. Exemptions for local coastal protection measures may be granted, provided it is the Best Environmental Practice for coastal protection.

### 7.2 Trilateral projects and actions

7.2.1 A study into the possible effects of enhanced sea level rise by a Trilateral Expert Group to be established under the coordination responsibility of the competent authorities and, on the basis of these studies, the development of proposals for future integrated coastal defence and nature protection policies. (Identical with 3.2.1, 4.2.1, 5.2.2).

7.2.2 An investigation on shellfish stocks (e.g. Spisula) and the impact of fishery on the benthic stocks, seaward of the islands and, depending on the outcome, a discussion of the results on a trilateral basis with the aim to safeguard the food stock for birds.
8 Rural Area

The rural area includes meadows and arable land on the islands and on the mainland where there is a strong ecological relationship with the Wadden Sea (Leeuwarden Declaration Annex I).

Strong ecological relationships with the Wadden Sea can obviously be determined, if the area provides physical and biological factors essential to typical Wadden Sea species, such as some bird species. Man has influenced these areas, e.g. meadows, grassland and pasture land, by mowing and grazing by cattle, horses and sheep, as well as, by the cultivation of fields with crops such as grain, potatoes and rape. Human use has priority in major parts of the rural area.

Status

Migratory birds, such as some waders, ducks and geese species, use rural areas on the islands and on the mainland behind the dikes during their stay in the Wadden Sea area. Meadows, pasture land and arable land are utilized as roosting sites by Golden Plover, Lapwing, Ruff and Whimbrel, mainly in spring and autumn.

The herbivores Widgeon, Barnacle Goose and, to a lesser extent, Brent Goose, also use meadows and arable land as feeding areas during autumn and spring.

Furthermore, rural areas such as meadows and arable land on the islands and on the mainland behind the dikes are used as alternative high-tide roosting sites, if the roosting sites in front of the dikes are not available during too high water.

Targets

Favorable conditions for flora and fauna, especially migrating and breeding birds.

Assessment

All habitats which are used by one typical Wadden Sea bird species are linked to, and depending on, each other. All these habitats are important for the different species during various periods and are essential for the natural development of these species in the Wadden Sea. This aspect should be taken into consideration while designing a management strategy for the protection of different bird populations.
Feeding areas and appropriate roosting sites on the tidal flats or salt marshes should be available in a sufficiently close distance to the breeding sites of species (e.g. Lapwing, Oystercatcher, Black-tailed Godwit) which breed in rural areas behind the dikes, such as meadows, and arable land.

The herbivores Wigeon Barnacle Goose and, to a lesser extent, Brent Goose, use meadows and arable land as feeding areas during the period September/October to March/April. A shift in habitat use from traditional natural feeding areas, such as eelgrass beds and salt marshes, to agricultural land (e.g. intensively used grassland areas) has occurred and resulted in damage to agricultural land and, as a consequence, conflicts with farmers. The concerned species have been forced to feed on agricultural grassland areas because of losses, changes and/or disturbance of the natural habitats. The natural habitats have been reduced in quality and quantity by impacts of agriculture, industry, flood control and recreational use. Human disturbance from increasing recreational use of the land in front of the dikes and tidal flats results in more intensive utilization of the rural areas.

At night, marshes, grasslands and fields behind the dikes are heavily utilized by Widgeons, especially when not disturbed. However, the use of agricultural land by geese and ducks, and in consequence also the conflicts, are concentrated in specific localized areas. This is not only dependant on the management of the concerned area, but also on the management of habitats and geese elsewhere. The developments in agricultural use (e.g. set aside or transformation of meadows to farmland) also have consequences in the use by geese and ducks.

How to proceed

The most important element in future policy and management is to work towards sustainable agricultural use of the rural area. However, it is evident that this can only be done in close cooperation, and on a voluntary basis, with the agricultural sector.

Regional and local authorities have an important responsibility to stimulate sustainable use in cooperation with the people who live in the area.

Also, measures in the tidal area and salt marshes will help to provide favorable conditions for the concerned bird species.

8.1 Trilateral policy and management

Wind energy and agricultural use are the main relevant human activities regarding the Target ‘favorable conditions for birds in rural areas’.

Trilateral measures regarding the management of human activities which are relevant for the rural area, and which have also relevance for the special Targets on birds, such as hunting, are dealt with comprehensively in Chapter 9 on birds.

Currently, an “International Flyway Management Plan Dark-bellied Brent Goose” (single species Action Plan in accordance with the AEWA) is being elaborated and will be submitted to the next Trilateral Governmental Conference.
Agricultural use

8.1.1 Sustainable agriculture for improving nature conservation, maintaining typical landscape elements and protection of cultural heritage will be supported, amongst others, financially.

8.1.2 Nature areas reclaimed for agricultural purposes should be restored, where possible, through voluntary cooperation with, and active participation of, the owners.

8.1.3 Initiatives of the agricultural sector aiming at reducing the application and unintended impacts of pesticides and other toxic substances and fertilizers in the rural area will be supported, amongst others, financially.

8.2 Trilateral projects and actions

8.2.1 A discussion with local farmers in the polder areas to decide on the most promising farming methods for the long and the short term with the aim of combining the Targets with sustainable agriculture.

8.2.2 An exploration of the possibilities for sustainable agriculture and for the combination of agriculture and nature management in the rural area.
9 Birds

Birds use different habitat types of the Wadden Sea Area. Therefore, all habitats which are used by one species or population are linked to and depend on each other. For example, feeding areas and appropriate roosting sites on the tidal flats or salt marshes should be available in sufficiently close distance to the breeding site of a species. During various periods, all these habitats are important habitat types for the different species and are essential for the natural development of these species in the Wadden Sea Area and should thus be taken into consideration while designing a management strategy for the protection of birds/different bird species/populations. Therefore, the bird Targets, including their subtargets, are, more or less, relevant for all habitat types in the Wadden Sea Area.

Management measures which have a habitat-crossing character, as well as measures for bird species which have their main distribution in a specific habitat type, will be addressed.

Status

The conservation status of birds in the Wadden Sea Area is primarily determined by weather conditions, food availability, disturbance, as a result of various human activities, and by pollution, in particular, by heavy metals, organic micro-pollutants and oil.

High numbers of moulting ducks and geese are present in the Wadden Sea Area every year. These birds are flightless during moult and extremely susceptible to disturbance. The herbivores Widgeon, Barnacle Goose and, to a lesser extent, Brent Goose, use meadows and arable land as feeding areas during certain periods of the year. A shift in habitat use from traditional natural feeding areas, such as eelgrass beds and salt marshes to agricultural land, occurred and resulted in damage of agricultural land and in conflicts with farmers. The breeding populations of particularly threatened species such as Kentish Plover and Little Tern are highly dependent on habitats, like sandy beaches and primary dunes. The offshore-area is an important feeding, roosting and moulting area for divers, Eider and other seaducks, such as Common Scoter.
**Targets**

Favorable conditions for migrating and breeding birds:

- a favorable food availability;
- a natural breeding success;
- sufficiently large undisturbed roosting and moulting areas;
- natural flight distances.

**Assessment**

**Favorable food availability**

A favorable food availability for birds is aimed for. Based on the guiding principle, unnatural food resources for birds should be avoided. However, as long as unnatural food resources are present in the Wadden Sea Area, they should be accepted as part of the system and as a natural component of the particular ecosystem.

A number of human activities interfere with the natural food availability of certain bird species. This interference may have consequences for the food availability in years with low shellfish stock. Activities which increase the food availability for certain species and favor some species with further consequences for the entire community structure should be addressed. This concerns fishery discards, landfill dumps in the vicinity of the Wadden Sea Area, eutrophication, as well as, agricultural practices in island polders and areas behind the dikes.

**Natural breeding success**

Under the parameter “natural breeding success” also, the importance of natural habitats as a condition for natural distribution and densities of breeding birds and their breeding success should be taken into consideration. Natural distribution and densities of breeding populations are especially important for endangered bird species highly dependent on sandy beaches and primary dunes (Kentish Plover, Little Tern). The present breeding populations of these species are particularly threatened and severely reduced compared to their former (natural) sizes.

In general, the reproduction success of breeding birds in the Wadden Sea Area should not be influenced by human factors (i.e. chemical pollution, disturbance). Hatching and breeding success are, generally, more influenced by disturbance and natural factors, i.e. weather conditions, flooding and predators, than by pollutants. However, also factors like predator density and the frequency and level of flooding may be affected by human activities (building of dikes and dams to islands, causing an increase of ground predators).
Sufficiently large undisturbed roosting and moulting areas

Sufficient numbers of large undisturbed roosting sites in the Wadden Sea Area should be distributed along the whole coastline and they should not lie far apart, and in close proximity, to the feeding area. A criterion for the size of an undisturbed roosting area should be that birds can roost there without being disturbed by human activities outside the area.

Besides food availability, the lack of disturbance is the primary factor favoring high numbers of Shelducks and Eiders to moult in a specific area. These birds are unable to fly during moult and are extremely susceptible to disturbance with escape/flight distances up to some kilometers. Boats, and other sources of disturbance, have a strong influence on the present distribution of moulting ducks in the Wadden Sea Area.

Natural flight distances

“Flight distance” is the distance between a bird and a human disturbing factor to which the bird reacts by fleeing. Though the “natural” flight (escape) distances of birds in the Wadden Sea Area are not known, the present flight distances, which are a reaction to human disturbance, can be regarded as long because the birds have experienced man as an enemy. These unnaturally long flight distances cause other human activities to work as disturbance as well, which would often not cause effects if the flight distances were shorter. On the other hand, the possibilities of habituation of birds in “safe” areas must be taken into account.

Human activities which may disturb are, inter alia, hunting, some military activities, recreation, air traffic and wind turbines. The disturbance by military and civil air traffic has been reduced by the introduction of minimum flight altitudes. The shooting ranges at Den Helder, Noordvaarder and Sylt have been abolished.

How to proceed

An important element in future policy and management is to work towards acceptable solutions to reduce the conflict between food requirements for birds and the interests of fisheries and agriculture. It is important to avoid food shortage due to disturbance of other human uses (such as recreational activities, aerial traffic, wind turbines and hunting), as well as, human activities which favor certain species of birds by increasing their food supply, e.g. fishery discards, garbage deposits close to the Wadden Sea Area, eutrophication and agricultural practices in island polders and areas behind the dikes. However, it is evident, that this can only be done in close cooperation with the fishery and agricultural sectors.

Measures to protect breeding, roosting and feeding habitats can be achieved by establishing a sufficient number of bird reserves of proper size and through the management of activities. Breeding populations of Kentish Plover and Little Tern, which are highly dependent on sandy beaches and primary dunes, are particularly threatened. The situation of these species should be improved. The same is valid for migrating and moulting birds. Safe moulting and roosting sites which lie close to their feeding areas are necessary for birds to avoid energy loss.

It is important to avoid the construction of wind turbines in the rural area where this may cause a significant impact on birds.
Flyway-Cooperation Agreements have already been established with The Wash and Guinea Bissau. In the framework of the African-Eurasian Waterbird Agreement, international conservation plans will be compiled for long-distance migrating waders and various other species.

### 9.1 Trilateral policy and management

Bird conservation and management, at the general trilateral policy level, is subordinated to the Guiding Principle, i.e. a natural and, as far as possible, dynamic Wadden Sea, even if natural dynamics may lead to less favorable conditions for some bird species or populations. That means, that the Guiding Principle is more important than special conservation measures for certain species.

General points regarding the flyway cooperation and also specific measures for the management of different human activities which have effects on breeding and migratory bird populations in the Wadden Sea Area were already laid down in the Esbjerg and the Leeuwarden Declarations.

The general management measures for specific habitats, listed under the headlines of the habitat categories, can be relevant for bird populations in general.

#### Site protection

- **9.1.1** The conditions for breeding birds will be improved by appropriate management.
- **9.1.2** It is the aim to improve the conditions for migratory birds during roosting and feeding, as well as, for seaducks in the offshore area during moulting, through integrated management.

#### Interference with the food conditions for birds

##### Mussel and cockle fishery

- **9.1.3** The negative effects of cockle fishery are being limited by:
  - Cockle fishery is not allowed in the German part of the Conservation Area;
  - Cockle fishery is not allowed in the Danish part of the Wadden Sea Area, with the exception of some small areas along the Esbjerg shipping lane and in the Ho Bay;
  - Cockle fishery is allowed in the Dutch part of the Wadden Sea Area, but has been limited by the permanent closure of considerable areas; there are possibilities for additional restrictions to safeguard food for birds. A co-management scheme with the fishing industry is in operation, in which the protection and enhancement of the growth of wild mussel beds and Zostera fields are central elements. (Identical with 4.1.16).

- **9.1.4** The negative effects of mussel fishery are limited by the permanent closure of considerable areas. In addition, the management of fishery on mussels aims, inter alia, at protecting and enhancing the growth of wild mussel beds and Zostera fields. (Identical with 4.1.17).

- **9.1.5** Mussel fishery will, in principle, be limited to the subtidal area. Based on national management plans, which are documented in the Progress Report, fishery on the tidal flats may be granted. The fishery sector is called upon to exchange information on the existing practices and to investigate possibilities for minimizing impacts of mussel fishery, in general, and seed mussel fishery, in particular. (Identical with 4.1.18).
Acoustic and visual disturbance

**Disturbances due to recreational and other human activities**

9.1.6 Disturbance in significant breeding areas will be reduced and access to these areas will be made more predictable for birds, i.e. using only certain footpaths on salt marshes, beaches and dunes (information system for visitors).

9.1.7 It is the aim to reduce the disturbance in significant breeding areas caused by grazing through the reduction of the grazing pressure and through postponing the beginning of the grazing period, except where a certain intensity of grazing is necessary for coastal protection measures.

9.1.8 Driving cars in breeding areas on beaches and in dunes is prohibited.

**Wind energy**

9.1.9 The construction of wind turbines in the Conservation area is prohibited. (Identical with 1.1.4).

9.1.10 The construction of wind turbines, in the Wadden Sea Area outside the Conservation Area, is only allowed, if important ecological and landscape values are not negatively affected. (Identical with 1.1.5).

**Hunting**

9.1.11 Hunting of migratory species has been, or will be, progressively phased out in the Conservation Area or in an ecologically and quantitatively corresponding area in the Wadden Sea Area.

9.1.12 Lead pellets will not be used in the Wadden Sea Area.

9.1.13 Hunting of non-migratory species is, in principle, only allowed in the Conservation Area, if migratory species are not harmed.

**Civil air traffic**

9.1.14 The impact of civil air traffic in the Wadden Sea Area will be limited.

9.1.15 New civil airports will not be constructed in the Wadden Sea Area.

9.1.16 The expansion of existing civil airports in the Wadden Sea Area is restricted to cases where this is essential in order to increase the safety of air traffic.

9.1.17 A minimum flight altitude of civil air traffic of 1,500 to 2,000 feet (450 - 600 m) is established in the Wadden Sea Area. Exemptions can be granted for safety reasons and will be confined to designated flight corridors situated in less vulnerable parts of the Wadden Sea Area.
9.1.18 The use of ultra-light aircraft will be prohibited in the Wadden Sea Area pending national legislation, with the exception of scientific and enforcement purposes.

9.1.19 Advertisement flights are, in principle, prohibited in the Wadden Sea Area.

9.1.20 Helicopter flight routes and altitudes are established in such a way that the disturbance to wildlife is minimized in the Wadden Sea Area.

Military activities

9.1.21 Disturbance caused by military activities has been, or will be, reduced and the possibilities for further concentrating and/or phasing out military activities will be regularly examined.

9.1.22 The negative effects of low altitude flight routes of military aircraft have been, or will be, reduced by reducing the number of flights and the maximum speed.

9.1.23 Action to minimize disturbance caused by military air traffic in the Wadden Sea area will be taken on a coordinated basis.

9.1.24 High priority will be given to the assignment of redundant shooting ranges as nature protection areas.

9.2 Trilateral projects and actions

9.2.1 An inventory of all important and potential roosting sites along the coastline of each country, in conjunction with an evaluation of available knowledge on the necessity for undisturbed roosting sites, in order to investigate the possibilities for creating undisturbed roosting sites.

9.2.2 An evaluation of available knowledge on the necessity of undisturbed moulting sites for seaducks in the offshore area, in order to investigate the possibilities for creating such undisturbed moulting sites, aiming at improving the conditions during moulting.

9.2.3 An investigation into the possibilities to come to a coordinated management for herbivorous species (e.g. ducks and geese) on inland sites.

9.2.4 The exploration of possibilities for improving the conditions for breeding birds in dunes and on beaches in cooperation with responsible authorities, especially on the local level, and relevant groups, with the aim to discuss the results and to take appropriate measures.

9.2.5 An inventory and assessment of the reduction of disturbance caused by military activities in the three countries.
The Common Seal, the Grey Seal and the Harbour Porpoise may be regarded as indigenous Wadden Sea species. Water is the main or exclusive element of these marine mammal species. The year round, the Common Seal uses other habitats than water, such as sand banks in the tidal area and beaches, the Grey Seal uses also dunes and salt marshes. All these habitats are essential for the maintenance of the vital biological functions of seals, such as whelping, nursing, breeding, moulting and feeding.

The species groups with an overlapping habitat demand, such as marine mammals and birds, need special attention because of their vulnerability to disturbance and pollution, and a possible food resource competition with Man. As top predators, these species have an important indicative function of the quality of the Wadden Sea ecosystem. Seals are the ambassadors and most attractive species of the Wadden Sea Area. Therefore, the opportunity for tourists to observe seals in their natural environment should be maintained.

Status

The present and short term conservation status of Common Seals, Grey Seals and Harbour Porpoises in the Wadden Sea Area is primarily determined by two developments: disturbance, as a result of various human activities (such as tourism and recreation activities, air traffic, some military activities) and pollution, in particular, by heavy metals and organic micro-pollutants. The present situation regarding food supply does not influence the conservation status of seals. Whilst measures to reduce pollution have to be taken mainly outside the Wadden Sea Area, measures to protect seal habitats have to be achieved within the area itself by creating seal reserves in such a way that disturbance is limited to a minimum.

In the years after the virus epidemic in 1988, the population of the Common Seal has shown a rapid recovery. During coordinated flights in the entire Wadden Sea Area, a total of 12,927 seals was counted in 1997, of which 2,783 were pups.

Today, two Grey Seal breeding sites exist in the Wadden Sea Area. One near the island of Vlieland in The Netherlands with about 315 animals, where at least 30 pups are born each year, and one small reproductive colony of about 30 to 40 animals in Schleswig-Holstein, Germany.

According to sightings, the Harbour Porpoise mainly inhabits coastal waters not deeper than 20 m. Systematic aerial and shipping surveys, which were carried out in the framework of the European Commission project SCANS and a project of the University Kiel in the entire North Sea and parts of the Baltic Sea, have documented that the area west of the Knobsände off Amrum and the island of Sylt is the most densely populated one within the German Bight. Long-term surveys
carried out by volunteers on the islands Amrum and Sylt, documented that Harbour Porpoises in this area also occur directly near the beach the whole year round. Compared to other parts of the North Sea, there is an extraordinarily high density of mother calf-groups (the suckling-period of this species lasts approx. 8 months) in this area. It can be concluded that this area is an important rearing area for Harbour Porpoises.

## Targets

| Viable stocks and a natural reproduction capacity of the Common Seal including juvenile survival. |
| Viable stocks and a natural reproduction capacity of the Grey Seal including juvenile survival. |
| Viable stocks and a natural reproduction capacity of the Harbour Porpoise. |

## Assessment

The term “viable stocks” has to be specified in such a way that a connection with management is possible. The numbers that can be expected according to the natural carrying capacity of the Wadden Sea Area depend on factors that are defined by the fish stocks in the North Sea, suitable undisturbed haul-out sites and on the effects of diseases and parasites in dense populations. The absence of significant human impact on the population, to be judged and monitored in the course of years, is the standard for the first part of the Target.

The “natural reproduction capacity” of seals depends on many factors - water quality, disturbance, population size - and can, probably, not be expressed by a simple number or range. Based upon regular best experts’ judgement, it will have to be assessed whether the reproduction can be regarded as natural. This second part of the Target is one of the main, still not really solved, problems of the last decades: the reduced reproduction rates due to PCBs and other organic micro-pollutants. The production of 0.85 - 0.95 pup per mature female per year is the proposed reference for the natural reproduction capacity.

In terms of numbers, the present Common Seal population is regarded as viable. However, the juvenile mortality is very high (over 40% instead of 20 - 25%). Despite the good protection of the main resting and nursing places, the environmental conditions are still not satisfactory.

The present Grey Seal population in the Wadden Sea Area cannot be regarded as viable. The stock in The Netherlands mainly grows because of immigration from Great Britain. Grey Seals need high sands (not flooded during high tide) or beaches and salt marshes during whelping and nursing. There ought to be means to keep areas free of interference in a flexible way. Furthermore, there is not enough knowledge about the natural reproduction capacity of Grey Seals in the Wadden Sea Area.

For Harbour Porpoises, a detailed assessment is not yet available due to limited knowledge. Small cetaceans are especially sensitive to disturbance and effects from high-speed boats (e.g.
jet-skis) and to the impact of fishery (by-catch). Possible effects of leisure boats and ships are strong underwater noise, which disturbs the communication and orientation system of small cetaceans, the risk of collision with high-speed boats, which can hardly be located by wales, and disturbance causing permanent separation of mother and calf. By-catches from fishery are a main threat to Harbour Porpoises. Based on an extrapolation, the number of animals killed in Danish gill-nets in the whole North Sea is some 7,000 animals per year.

How to proceed

Both with regard to the chemical and physical conditions - i.e. disturbance level - of the habitat of Common and Grey Seals, as well as, Harbour Porpoises, improvements are necessary.

For a better assessment of the status of the Grey Seal in the Wadden Sea Area, the general knowledge on reproduction and mortality should be improved. The same holds true for Harbour Porpoises because, at present, there is not enough knowledge about this species to be able to develop references, neither for viable population nor for natural reproduction parameters.

10.1 Trilateral policy and management

Common and Grey Seal

The ‘Agreement on the Conservation of Seals in the Wadden Sea’ (Seal Agreement) was enacted on October 1, 1991 as the first agreement as defined in Article 4, of the Convention on the Conservation of Migratory Species of Wild Animals (The Bonn Convention). The agreement was concluded between the Wadden Sea states with the aim to cooperate closely in achieving and maintaining a favorable conservation status for the Common Seal population of the Wadden Sea Area. The Seal Agreement contains provisions, amongst others, on research and monitoring, on taking and on the protection of habitats, which have been specified in the ‘Conservation and Management Plan for the Wadden Sea Seal Population 1991 - 95’ (Seal Management Plan) and the revised Seal Management Plan 1996 - 2000. The latter also includes additional measures for the protection of the Grey Seal.


Measures for the implementation of the Targets on seals are especially listed under “Required effort and objectives” and “Actions in 1996 - 2000” in the Seal Management Plan which are divided into actions on the trilateral and national level. These actions include measures which should be implemented in different habitats and for different purposes, such as research, monitoring and protection of habitats. In the following, the existing trilateral decisions, which have already been taken in the Esberg and Leeuwarden Declarations, are mentioned and some
new proposals regarding trilateral policies, management measures and actions are listed. The
general management measures regarding specific habitat types such as tidal area, salt marsh
and offshore area, can also be relevant for marine mammals in general.

According to the Leeuwarden Declaration §61, the principle and guidelines “to reduce the current
number of seals taken from, and released to, the Wadden Sea to the lowest level possible”
should also apply to the Grey Seal. Therefore, the “Conservation and Management Plan for the
Wadden Sea Seal Population 1996 - 2000” (Senior Officials, March 1996) includes “Additional
measures for the protection of the Grey Seal”.

Harbour Porpoise

This species was not taken into special consideration during the decisions of the last Trilateral
Governmental Conferences. In the framework of the Agreement on the Conservation of Small
Cetaceans of the Baltic and the North Sea (ASCOBANS), the Harbour Porpoise was included
and the Wadden Sea Conferences welcomed the agreement and the cooperation with its
respective bodies (ED §28 and LD §63).

10.1.1 It is the aim to protect important breeding/rearing areas of the Harbour Porpoise in the
Wadden Sea Area and adjacent areas through appropriate measures.

10.1.2 The public will be informed about small cetaceans in the Wadden Sea Area and the
North Sea on a common basis in cooperation with ASCOBANS.

10.2 Trilateral projects and actions

10.2.1 The consideration, on the basis of scientific evidence, of the designation of areas in the
Wadden Sea Area and adjacent areas off Sylt and Amrum, as well as, in the Danish part, as
areas of special concern, especially as breeding/rearing area for the protection of the Harbour
Porpoises.

10.2.2 An investigation, in consultation with responsible local governments and relevant groups
into the available possibilities for closing, in a flexible way, areas where Grey Seal pups rest
regularly.

10.2.3 An investigation of technical solutions and improvements in consultation with responsible
fishery groups, for the prevention of incidental catch of marine mammals in drift nets and set
nets, with the aim of minimizing by-catch.
Appendix I
Maps

See German version.
Appendix II
Index of Activities

The following activities have been distilled from part II of the Plan to provide an overview of the activities under each of the Targets. An activity may be addressed under more than one Target. The numbers refer to the paragraphs as entailed in part II.
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Appendix III
Glossary

Background concentration, Background value
Concentration of a substance in an environment not influenced by human activities.

Baseline
Natural and artificial lines to calculate the seaward border of coastal waters and the extension of the territorial waters. It is the low water line along the coast or, where appropriate, an artificial line in the area of bays, estuaries or between islands. The baseline is defined according to the United Nations Law of the Sea of 1982 (Articles 3 - 16).

Benthic stock
The total amount of all aquatic organisms living in, or on, the sea floor.

Best Available Technique
The latest stage of processes, facilities or methods for limiting discharges and emissions of wastes, which is also practically feasible.

Best Environmental Practice
The application of the most appropriate combination of environmental control measures and strategies (OSPAR Convention 1992, Appendix I).

Bio-accumulation
The accumulation in an organism, mainly in soft parts such as liver and muscles, but also in hard parts (bones etc.), of substances (e.g. heavy metals, pesticides) after passive or active uptake from the water.

Biotope
An area, characterized by certain environmental conditions, in which different species and communities live and are interconnected.

Brackish water limit
Border of seawater and freshwater in estuaries. The hydrographical brackish water limit is 0.5 PSU (practical salinity unit).

Breeding success
Number of fledged young birds per year and breeding pair. To be differentiated from “hatching success”, which means number of hatched birds of all eggs and “fledging success”, which means number of fledged young birds of all hatched birds.
Brushwood groyne

See Groyne.

By-catch

Those organisms caught during fishing which are too small or are not the target species. When thrown back into the sea they are called “discard”.

Carrying capacity

The maximum population of a given organism that a particular environment can sustain.

Catchment area

The area from which a certain river or a sea derives its water, e.g. all precipitation on this area finally flows into one certain river/sea.

Co-management

Co-management implies the involvement of stakeholders in the making and implementation of decisions about the management of e.g. fishery resources. It has two main features: consultation and delegation. Consultation between the central administration and the user groups about the contents of the management strategies and the delegation of specific management functions to responsible user group organizations. (Report of the Seminar on Co-Mangement, 9-10 January 1997, Groningen, NL).

Cuttings

Material formed during the drilling process, i.e. rock particles, sand etc. mixed with drilling muds (see drilling muds).

Deepwater route

Special routes with an international status which have been instituted for deep-draught ships and ships with dangerous substances in bulk.

Discards

Fishery offal and by-catch disposed of into the sea.

Drilling muds

Fluids used in drilling operations for cooling the drilling chisel and transporting cuttings to the surface. Drilling muds can either be based on water or oil. They contain various other components, e.g. e.g. heavy metals, bentonite, inorganic salts, surfactants, organic polymers, detergents, corrosion inhibitors, biocides, lubricants in the form of oil-water emulsions.

Ecosystem

Natural functional unit of organism, as well as, natural and artificial abiotic compartments which are interconnected concerning the exchange of energy, substances and information.

Environmental Impact Assessment

Comprehensive investigation of possible effects of projects or measures, with regard to the ecological impacts.

Flight corridors

Defined air corridors (height and width) to which air traffic is restricted.
Flyway cooperation
International cooperation concerning the East-Atlantic-Flyway of migratory birds between the countries of the flyway. The Flyway connects the breeding areas in the Arctic and the overwintering areas in West-Europe and West Africa.

Gill-nets
Rectangular nets used for passive fishery placed vertically in the water column.

Green beach plains
Beach area shielded by primary dunes enabling sparse vegetation.

Groyne
Construction built parallel or perpendicular to the coastline with the aim of enhancing sedimentation of fine-grained material and/or reducing wave and current energy. They may consist of brushwood, stone or concrete.

Habitat
The structural environment where a species naturally or usually lives or is found.

Hydrofoil craft
Boat / Vessel equipped with structures (plates or fins) which, when the boat is in motion, raise the hull out of the water, thereby reducing resistance and, consequently, allowing for higher...
Outer delta
Outer deltas are underwater sand banks at the outer (North Sea) side of the tidal inlets between the islands. They are also called ebb deltas because they are formed during ebb-tide when water is transported from the Wadden Sea through the inlets to the North Sea. The sand, that is transported with the outflowing water, is deposited on the North Sea side of the inlet in an arch shaped form.

Pioneer zone
Transition area between salt marsh and tidal area, located between middle tide low water and middle tide high water, dominated by Salicornia and sometimes with scattered Spartina tussocks.

Primary dunes
Wind created sand accretion (up to 1 m), with or without sparse/scattered vegetation, dominated by sea wheat grass (Agropyron junceum). Transition phase in the development to secondary dunes (white dunes).

Primary dune valleys
Valleys parallel to the beach between two dune walls with wet conditions (at least in winter), increasing dominance of fresh water, sometimes also moor. Depending on local conditions, dune valleys have characteristic vegetations (wet heaths, rush and sedge swamps, as well as, aquatic and amphibic communities). Secondary dune valleys are created by blow-out and are located in wind direction.

*Primary production
The production of living matter by photosynthesizing organisms (e.g., plants, plankton) or by chemosynthesizing organisms (e.g. bacteria). Usually expressed as grams of carbon per square meter per year, because carbon is a common element in all living matter.

Resilience
The ability to return to the original state (or original dynamic) after a temporary disturbance (e.g. natural events or human interference).

Sabellaria reefs
The tube building bristle-worm Sabellaria spinulosa forms sand reefs. This characteristic species of the subtidal channels disappeared almost completely. Only two recent observations of Sabellaria reefs are known (near the islands of Mellum and Amrum, Germany).

Secondary dunes
Up to 20 m high dunes. First stable stage of dune succession with vegetation; dominated by marram grass (Ammophila arenaria).

Shore reception facilities
Facilities in ports for the reception of oily and chemical residues and wastes from ships.

Sluicing regimes
Specific scheme according to which fresh water is sluiced into the sea at certain periods.

Spring high tidewater line, spring low tide water line
Highest, respectively, lowest water line during spring tide (which is caused by the summation of the gravitation of moon and sun during full-moon and new-moon).
Stakeholders
Any person, institution, organization, agency, department, authority, club, association etc. which has, in the broadest sense, an interest in, or association with, a particular issue.

Subtidal
Coastal area below the spring low tide water line, always covered by water (sublitoral).

Sustainable use
The use of components of biological diversity in a way, and at a rate, that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations (Convention on Biological Diversity, 1992).

Synergism
Interaction of several components, intensifying each other, e.g. influence of a combination of contaminants on organisms.

Tidal basin
System of tidal channels and tidal flats between two water sheds (see Water Shed) ranging from the dike to approximately the 20 m depth line.

Tidal flat
Area which is regularly flooded/coversed by water during high tide (mud flat, eulitoral).

Top predators
Animals which feed on other animals and which are themselves not a prey for other species. The only exception is hunting by Man. Examples in the Wadden Sea are seals, foxes and several bird species.

Water-based muds
See Drilling muds.

Watershed
The area between two tidal basins. Water sheds have a higher elevation than other tidal flats and are flooded last.

Xenobiotics
Man made substances.

Zostera fields
Seagrass meadows or eelgrass fields (Zostera marina and Z. noltii) in the tidal area.
Annex II
Common Package TMAP
### Common Package TMAP*

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* The parameters in the Common Package will be monitored according to the agreed common TMAP Guidelines.
Memorandum of Intent
Guinea-Bissau - Wadden Sea
Work Program 1998 - 2000
Objective

The program is designed to encourage an international interchange of knowledge and ideas and to develop a multi-disciplinary approach to nature protection and management issues.

The first step of the program will be to continue to train an ornithological team in Guinea-Bissau to carry out research and monitoring work, especially in the field of waders wintering in Guinea-Bissau and migrating to the Wadden Sea.

The next step of the program will be to establish an organization for ornithological research, monitoring and public information in Guinea-Bissau, which will be able to continue the work initiated.

Projects

Project 1

Subject:
Research, monitoring and surveys on waterbirds and important bird areas in Guinea-Bissau

Objective:
To train an ornithological team in Guinea-Bissau to carry out the following tasks:

a) To provide data on the abundance and species composition of waterbirds by monthly counts on tidal flats of Bubaque, Soga, and Orango, and in the Ramsar site Lagoa de Cufada.

b) To monitor changes in abundance and species composition of waders by making a survey of the whole coastal zone of Guinea-Bissau as complete as possible every third year, next time in 1999.

c) To provide data on the breeding colonies of shorebirds by visiting selected uninhabited islets of the Bijagos Archipel 3 to 4 times per year.

d) To provide data on Important Bird Areas (IBA-sites) in Guinea-Bissau as a part of current international programs.

e) To formulate preliminary management policy proposals.

Contents:
Participants:
Guinea-Bissau: GPC, INEP, in cooperation with IUCN.
Wadden Sea States: Joint Monitoring Group of Migratory Birds in the Wadden Sea.

Implementation:
Education and training of an ornithological team in Guinea-Bissau by trilateral and Portuguese ornithologists in Guinea-Bissau from 1998 to 2000.
Survey of the whole coastal zone of Guinea-Bissau by trilateral ornithologists in cooperation with the ornithological team in 1999.
Elaboration of management policy proposals in 2000.
Publishing a brochure on the Memorandum, the areas and the work program to inform, amongst others, the authorities.

Estimated costs:
1998-2000: 136,000 US$

Project 2

Subject:
Establishing an organization for ornithological research, monitoring, education and public information in Guinea-Bissau.

Objective:
To provide for the continuation of ornithological work in Guinea-Bissau in order to:

- conduct ornithological work of all kinds,
- undertake education and public information, and
- carry out awareness campaigns of the local population.

Contents:
Liaison between scientists and technicians in the Wadden Sea States and Guinea-Bissau to publish small books on birds for schools in Portuguese and/or Creole, to publish lists of birds of Guinea-Bissau, to publish brochures of sustainable use of flora and fauna etc., to carry out campaigns for collecting bird rings, handling data from bird rings etc.

Participants:
Guinea-Bissau: GPC, INEP, in cooperation with IUCN.
Wadden Sea States: Joint Monitoring Group of Migratory Birds in the Wadden Sea.

Implementation:
Establishing the organization in 1998.
Elaborating and publishing a school booklet on the most common birds from 1999 to 2000.
Carry out awareness campaigns for bird rings from 1998 to 2000.

Estimated costs:
1998-2000: 20,000 US$
Organizational aspect

The overall project manager is the National Forest and Nature Agency in Denmark and the Coastal Planning Office and INEP in Guinea-Bissau with the task
- to oversee the implementation of the projects;
- to ensure that it is in accordance with the planned budgets;
- to solve any matter of common concern.

The Contracting Parties shall review the results of the program based on a brief evaluation of the projects in 2000.

Signatures

Mr. G. Da Costa
National Director, Bureau of Coastal Planning of The Ministry of Rural Development, Natural Resources and the Environment on behalf of Guinea-Bissau

Dr. A. Merkel
Annex 13

Agreement on the Conservation of Seals in the Wadden Sea according to Article 4 of the Convention on the Conservation of Migratory Species of Wild Animals (CMS, Bonn Convention), 1990
Agreement on the Conservation of Seals in the Wadden Sea, 1990

The Parties,

RECOGNIZING that seals are an irreplaceable component of the Wadden Sea ecosystem and that they are of great importance as indicators of its condition;

AWARE that they constitute a separate population whose main range and the main migration routes are located in the Wadden Sea and which should, as a consequence, be managed as a single unit;

DEEPLY CONCERNED by the conservation status of that population, which as the result of mass deaths of seals has been reduced to the lowest level ever recorded;

WITH A VIEW to improving this conservation status through concerted action on the part of the States that exercise jurisdiction over the range of that population;

RECALLING the Convention on the Conservation of Migratory Species of Wild Animals signed at Bonn on 23 June 1979 and notably its Appendix II which was amended in 1985 to include the Wadden Sea population of the common or harbour seal;

RECALLING the Joint Declaration on the Protection of the Wadden Sea, adopted at the Third Governmental Meeting on the Protection of the Wadden Sea in Copenhagen on 9 December 1982;


RECALLING the trilateral Administrative Agreement on a Common Secretariat for the Cooperation on the Protection of the Wadden Sea of 23 October 1987;
HAVE AGREED as follows:

I. Relationship with the Convention

This Agreement shall be deemed to be an agreement as defined in Article IV paragraph 4 of the Convention on the Conservation of Migratory Species of Wild Animals signed at Bonn on 23 June 1979.

II. Definitions

For the purpose of this Agreement:

a) "seal" means an animal of the species Phoca vitulina;

b) the "Agreement Area" means the area of water known as the Wadden Sea, including all sandbanks therein as well as all shore areas of the North Sea coasts of Denmark, the Federal Republic of Germany and the Netherlands between Blaavandshuk to the north and Den Helder to the west. The main ranges and the main migration routes are located in the Wadden Sea;

c) "seal population" means all seals which, at any time, are present in the Agreement Area;

d) "habitat" means any part of the Agreement Area which is essential to the maintenance of the vital biological functions of seals, including but not limited to breeding, whelping, nursing, feeding or resting;

e) "Convention" means the Convention on the Conservation of Migratory Species of Wild Animals signed at Bonn on 23 June 1979;

f) the terms defined in Article I, sub-paragraphs 1 (a) to (d) and 1 (I) of the Convention shall have the same meaning in this Agreement.

III. Purpose and Object

The Parties shall cooperate closely with a view to achieving and maintaining a favourable conservation status for the seal population.

IV. Conservation and Management Plan

The Parties shall develop on the basis of scientific knowledge a conservation and management plan for the seal population. This plan shall contain a comprehensive statement of actions which are or are to be undertaken by the Parties to achieve the goals of this Agreement. The Parties shall keep the plan under review and amend it, as may be required, taking into consideration, in particular, the results of scientific research.
V. Research and Monitoring

1. The Parties shall co-ordinate their research programmes and projects and their monitoring of the seal population to increase their knowledge of the biology and the habitats including harmful effects of human activities on the seal population to provide a basis for measures to improve its conservation status.

2. They shall, in particular, monitor and co-ordinate their research on,

a) population trends e.g. through periodic aerial surveys and counts;

b) seal migration;

c) seal population parameters, e.g. diseases, survival, age structure, sex ratio.

VI. Taking

1. The Parties shall prohibit the taking of seals from the Wadden Sea.

2. The competent authorities may grant exemptions from the prohibition referred to in the first paragraph authorizing persons to take seals:

- for institutions to be designated performing scientific research into the conservation of the seal population in the Wadden Sea or the conservation of the Wadden Sea ecosystem, insofar as the information required for such research cannot be obtained in any other way; or
- for institutions to be designated nursing seals in order to release them after recovery, insofar as these are diseased or weakened seals or evidently abandoned suckling seals.

Seals which are clearly suffering and cannot survive may be killed by the persons referred to in this paragraph.

3. Any Party having granted exemptions as mentioned above shall notify the other Parties as soon as possible and provide them with an opportunity for review and comment.

4. The Parties shall take appropriate action to suppress illegal hunting and taking of seals.

VII. Habitats

1. The Parties shall take appropriate measures for the protection of habitats. They shall pay due regard to the necessity of creating and maintaining a network of protected areas also in the migration areas of the seals in the Agreement Area and of ensuring the preservation of areas which are essential to the maintenance of the vital biological functions of seals.

2. The Parties shall preserve habitats and seals present from undue disturbances or changes resulting, directly or indirectly, from human activities.

3. The Parties shall have regard to the protection of habitats from adverse effects resulting from activities carried out outside the Agreement Area.

4. The Parties shall explore the possibility of restoring degraded habitats and of creating new ones.

VIII. Pollution

The Wadden Sea States are determined to do their utmost to further reduce pollution of the North Sea from whatever source with the aim of conserving and protecting the Agreement Area.

To this end they shall:

a) endeavour to identify the sources of such pollution;

b) co-ordinate their research projects regarding seal diseases and the effects on the seal population of
such substances, e.g., organochlorine compounds, heavy metals and oil, and agree on methods which permit a comparison of research results; c) monitor in the Agreement Area, in particular in seal tissues and in organisms which are preyed upon by seals, the levels of those substances which in the light of the results of research appear to play a major role in the conservation status of the seal population.

IX. Responsible Authorities

Each Party shall inform the other Parties of the authorities which shall be responsible for the implementation of this Agreement.

X. Public Awareness

The Parties shall take such measures as may be required to make the general public aware of the conservation status of the seal population, of the content and aims of this Agreement, and of the measures they have taken pursuant to this Agreement, including the Conservation and Management Plan, to improve this conservation status.

XI. Amendment of the Agreement

Any Party may propose amendments to this Agreement. Any such proposed amendment shall be submitted to the Depositary and communicated by it to all Parties, which shall inform the Depositary of their acceptance or rejection of the amendment as soon as possible after the receipt of the communication. The amendment shall enter into force ninety days after the Depositary has received notifications of acceptance of that amendment from all Parties.

XII. Effects on International Conventions and other Legislation

1. The provisions of this Agreement shall in no way affect the rights or obligations of any Party deriving from any existing bilateral or multilateral convention.
2. The provisions of this Agreement shall in no way affect the right of Parties to adopt stricter domestic measures concerning the conservation of seals.

XIII. Settlement of Disputes

1. Any dispute which may arise between the Parties with respect to the interpretation or application of the provisions of this Agreement shall be subject to negotiation between the Parties involved in the dispute.
2. If the dispute cannot be resolved in accordance with paragraph 1 of this Article within six months, the procedure provided for in the European Convention for the peaceful settlement of disputes of 29 April 1957 shall be followed.

XIV. Reservation

The provisions of this Agreement shall not be subject to reservations.

XV. Ratification, Acceptance, Approval

This Agreement shall be subject to ratification, acceptance or approval. Instruments of ratification, acceptance or approval shall be deposited with the Government of the Federal Republic of Germany,
Annex 13, Agreement on the Conservation of Seals

which shall be the Depositary.

**XVI. Entry into Force**

This Agreement shall enter into force on the first day of the third month following the date of deposit of the third instrument of ratification, acceptance, approval or accession with the Depositary.

**XVII. Denunciation**

At any time, after the expiration of a period of five years from the date of entry into force of this Agreement, any Party may by written notice to the Depositary denounce this Agreement with effect from the end of a calendar year. This Agreement shall be terminated twelve months after the Depositary has received such notice.

**XVIII. Depositary**

1. The original of this Agreement, in the Danish, Dutch, English and German languages, each version being equally authentic, shall be deposited with the Depositary. The Depositary shall transmit certified copies of each of these versions to the States which have signed the Agreement and the Secretariat of the Convention.

2. The Depositary shall inform all signatory States and the Secretariat of the Convention of signatures, deposit of instruments of ratification, acceptance, approval or accession, entry into force of this Agreement, amendments thereto, and notices of denunciation.

3. As soon as this Agreement enters into force, a certified copy thereof shall be transmitted by the Depositary to the Secretariat of the United Nations for registration and publication in accordance with Article 102 of the Charter of the United Nations, and to the Secretariat of the Convention.

IN WITNESS WHEREOF the undersigned, being duly authorized to that effect, have signed this Agreement.

DONE at Bonn on 16 October 1990

For the Government of the Kingdom of Denmark

For the Government of the Federal Republic of Germany

For the Government of the Kingdom of the Netherlands
Annex 14

Designation of the Wadden Sea as Particularly Sensitive Sea Area (PSSA) by the International Maritime Organization, 2002
# REPORT OF THE MARINE ENVIRONMENT PROTECTION COMMITTEE ON ITS FORTY-EIGHTH SESSION

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ANNEX 5 RESOLUTION MEPC.101(48) – IDENTIFICATION OF THE WADDEN SEA AS A PARTICULARLY SENSITIVE SEA AREA

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7 IDENTIFICATION AND PROTECTION OF SPECIAL AREAS AND PARTICULARLY SENSITIVE SEA AREAS

Draft Guidance document for submission of PSSA proposals

7.1 The Committee recalled that, at MEPC 45, when developing the Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas, it agreed that some guidance on how to select the most appropriate regime for a given area of sea to be protected could be included in a supplementary document to the Guidelines.

7.2 The Committee also recalled that MEPC 47, in considering a document by the United States (MEPC 47/8/1) providing guidance to Member States, supported it in principle. However, MEPC 47 agreed that certain modifications should be made to it and the Secretariat was instructed to prepare a draft MEPC circular, based on the United States document for approval by the Committee at this session.

7.3 The Committee, having noted that the Secretariat had made changes to the draft MEPC circular “Guidance Document for Submission of PSSA Proposals to IMO” (MEPC 48/7/1) as instructed by MEPC 47 (MEPC 47/20, paragraph 8.18), agreed that it would be useful to appendix to the document a framework of what needs to be included in a proposal. The Committee requested the Secretariat to prepare the text of the appendix, using the headings and sub-headings of the Florida Key PSSA proposal submission (MEPC 46/6/2), which MEPC 46 agreed should serve as a model by Member States when proposing their PSSAs. Reference of the original document should be given.

7.4 In considering the draft MEPC Circular (MEPC 48/7/1), the Committee agreed to issue the Guidance Document with its appendix to be prepared by the Secretariat as MEPC/Circ.398.

Establishment of an Informal Group for reviewing PSSA and Special Area proposals

7.5 The Committee noted that there is a need for a mechanism to review PSSA and Special Area proposals to ensure that they meet the requirements of the Guidelines for identifying and designating PSSAs and for designating Special Areas (resolution A.927(22)).

7.6 The Committee recognized that, with the expected increase of new PSSA proposals being put forward to this Committee and given the limitation in the number of working groups allowed during any MEPC session, it is unrealistic to establish a MEPC working group every time when a new PSSA or a Special Area proposal is submitted.

7.7 The Committee agreed with the Chairman’s proposal to establish an Informal Group under the chairmanship of Mr. Paul Nelson (Australia) to:

1. review the proposals for the marine area of the Paracas National Reserve and for the Wadden Sea to be designated as Particularly Sensitive Sea Areas (PSSAs) (MEPC 48/7 and MEPC 48/7/2), to determine whether they meet the provisions of the Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas (Annex 2 of resolution A.927(22));

2. review the proposal to extend the “Gulfs area” as a Special Area under Annexes I and V of MARPOL 73/78, (MEPC 48/7/3 and MEPC 48/7/3/Corr.1), to
determine whether it meets the provisions of the Guidelines for the Designation of Special Areas under MARPOL 73/78 (Annex 1 of resolution A.927(22)); and

3 provide a written report to the plenary outlining its findings.

Report of the Informal Working Group

7.8 The Committee, having received the report of the Group (MEPC 48/WP.14), noted the following:

1 the Group examined each proposal against a checklist with 46 questions for PSSAs and 18 questions for Special Areas, covering all the criteria set out in resolution A.927(22);

2 the Group reviewed the joint submission by Denmark, Germany and the Netherlands for the Wadden Sea to be designated as a PSSA (MEPC 48/7/2), and agreed that the submission included information on all applicable criteria, and that this information satisfied the requirements of those criteria. The Group recommended that, as IMO measures already exist to protect this area and there are no new measures requiring referral to any other Committee or Sub-Committee, MEPC take appropriate steps to designate the area as a PSSA;

3 the Group reviewed the proposal by Peru for the Paracas National Reserve to be designated as a PSSA (MEPC 48/7) and agreed that all environmental criteria were satisfied. In response to concerns expressed by the Group regarding the need for more information on some criteria, in particular on the volume of traffic and hazardous cargoes, Peru provided additional information (annex 2 of MEPC 48/WP.14). The Group determined that this information satisfied the relevant criteria;

4 the Group in considering the two associated protective measures proposed by Peru, namely an Area to be Avoided and a “no discharge” area, recommended that the Area to be Avoided should be referred to the NAV Sub-Committee for review. As regards the proposed “no discharge” area, prohibiting any kind of discharge from ships, the Group determined that the information provided was not sufficient to justify the approval of such an area at this session of the Committee;

5 accordingly, in accordance with the Guidelines, the Group recommended that the Committee approve the Paracas National Reserve PSSA, in principle, pending consideration of the proposal for an Area to be Avoided by the NAV Sub-Committee on the basis of a separate submission by Peru;

6 the Group noted the submission by Oman for the extension of the "Gulfs area" as a Special Area under Annexes I and V of MARPOL 73/78. Additional information on proposed amendments to MARPOL 73/78 and a chart, which are attached at annex 3 to MEPC 48/WP.14, as well as information provided orally to the Group, was provided by the delegation of Oman; and

7 the Group agreed that further information was required to show that the discharge of garbage from ships, when operating in accordance with MARPOL 73/78, was a particular threat. Accordingly, the Group determined that the submission satisfies the requirements for Special Area status in respect of Annex I, but not Annex V of
MARPOL 73/78. The Group therefore recommended that the Oman Area of the Arabian Sea be designated as a Special Area under Annex I of MARPOL 73/78, as defined in the submission and annex 3 to document MEPC 48/WP.14, and that such Special Area would be distinct from the "Gulfs area" Special Area since it is in the Arabian Sea and outside the "Gulfs area".

**Report of the Informal Working Group**

7.9 Having considered the report of the Informal Working Group (MEPC 48/WP.14), the Committee:

.1 designated the Wadden Sea as a PSSA through the adoption of resolution MEPC.101(48), as attached at annex 5;

.2 referred the proposal for an Area to be avoided in the Paracas National Reserve to the NAV Sub-Committee for consideration;

.3 approved, in principle, the designation of Paracas National Reserve as a PSSA, pending consideration of the proposal for an Area to be Avoided by the NAV Sub-Committee; and

.4 approved the proposed amendments to MARPOL Annex I, with a view to designating the Oman area of the Arabian Sea as a Special Area under MARPOL Annex I, as set out in annex 6 and requested the Secretary-General to circulate the proposed amendments for adoption at MEPC 49.
ANNEX 5

RESOLUTION MEPC.101 (48)

Adopted on 11 October 2002

IDENTIFICATION OF THE WADDEN SEA
AS A PARTICULARLY SENSITIVE SEA AREA

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

BEING AWARE of the ecological, social, economic, cultural, scientific and educational value of the Wadden Sea, as well as its vulnerability to damage by international shipping traffic and activities in the area and the steps taken by Denmark, Germany and the Netherlands to address that vulnerability,

NOTING that the Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas adopted under resolution A.927(22) set out procedures for the designation of particularly sensitive sea areas,

HAVING CONSIDERED the proposal from Denmark, Germany and the Netherlands to designate the Wadden Sea as a Particularly Sensitive Sea Area,

HAVING AGREED that criteria for identification of a Particularly Sensitive Sea Area provided in resolution A.927(22) are fulfilled for the Wadden Sea,

1. DESIGNATES the Wadden Sea as defined in Annexes 1, 2 and 3 to this resolution as a Particularly Sensitive Sea Area.
ANNEX 1

DESCRIPTION OF THE PARTICULARLY SENSITIVE SEA AREA
WADDEN SEA CO-ORDINATES

a. Description

In order to avoid the risk of pollution and damage to this exceptional, highly dynamic tidal ecosystem of world importance, mariners should exercise extreme care when navigating in the area bounded by a line connecting the following geographical positions which is designated as a Particularly Sensitive Sea Area and in the adjacent area:

The PSSA Wadden Sea is bordered:

Seawards: by an offshore line defined by a set of geographical co-ordinates (see co-ordinates listed under c.),

Landwards: by the main dikes, or where the main dikes are absent, by the spring-high-tide-water line, and in the rivers, by the brackish-water limit.

The inhabited islands are excluded from the PSSA. These islands are in:

Denmark: Rømø, Mandø, Fanø

Germany:


Hamburg: Neuwerk

Lower Saxony: Borkum, Juist, Norderney, Baltrum, Langeoog, Spiekeroog, Wangerooge

The Netherlands: Texel, Vlieland, Terschelling, Ameland, Schiermonnikoog
b. Illustrative overview

The illustrative overview shows the different parts (1-12) of the offshore line of the proposed PSSA Wadden Sea. The numbers and names pointing to the different parts refer to the list of co-ordinates given in the tables under c.
c. List of geographical co-ordinates (projection WGS84) for the bordering offshore line of the proposed PSSA Wadden Sea

**Denmark**

The proposed PSSA in the Danish Wadden Sea is divided into a northern part and a southern part by the Esbjerg Harbour shipping lane and the outer area of Esbjerg Harbour.

**Northern part (1)**

The PSSA delimitation consists of 28 points with the following coordinates from Blaavandshuk to the shore north of Esbjerg Harbour.

**Southern part (2)**

The PSSA delimitation consists of 17 points with the following coordinates, from the shore south of Esbjerg Harbour to the borderline between Denmark and Germany territorial waters.

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Germany

Below are the coordinates for the seven parts (3-9) representing the delimitation of the proposed PSSA for Germany.

### 3 Germany, Schleswig-Holstein

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### 3 Germany, Schleswig-Holstein

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### 4 Germany, Lower Saxony, eastern Elbe part

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### 5 Germany, Hamburg National park

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<td>381</td>
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<td>8° 13,17'</td>
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### 6 Germany, Lower Saxony, Wurster Küste

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### 7 Germany, Lower Saxony, Weser-Jade area

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### 8 Germany, Lower Saxony, Eastfrisia

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<td>8° 02,817'</td>
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<td>410</td>
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### 9 Germany, Lower Saxony, Dollard

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The Netherlands

Below are the co-ordinates representing the delimitation of the proposed PSSA for the Netherlands.

- Point 433 until 440 represent the eastern boundary, Ems Dollard, of the area (part 10).
- Point 441 until 453 represent the delimitation of the northern part of the area. It consists of the three nautical miles line from the baseline. Because this is a curved line, there are at least 1900 coordinates, but only some characterizing coordinates have been listed below. The map in annex 2 has been compiled on the basis of detailed information on the 3 nautical miles line (available from the Dienst der Hydrografie, the Hydrographical Service in the Hague, Netherlands) (part 11).
- Point 454 and 455 represent the western boundary of the area. It is the line from Den Helder towards the West, crossing the three nautical miles line (part 12).

### 10 The Netherlands, eastern boundary, Ems-Dollard

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>433</td>
<td>7° 11,605'</td>
<td>53° 18,882'</td>
</tr>
<tr>
<td>434</td>
<td>7° 00,666'</td>
<td>53° 18,655'</td>
</tr>
<tr>
<td>435</td>
<td>6° 54,414'</td>
<td>53° 20,860'</td>
</tr>
<tr>
<td>436</td>
<td>6° 53,420'</td>
<td>53° 26,439'</td>
</tr>
<tr>
<td>437</td>
<td>6° 50,010'</td>
<td>53° 27,797'</td>
</tr>
<tr>
<td>438</td>
<td>6° 41,803'</td>
<td>53° 30,069'</td>
</tr>
<tr>
<td>439</td>
<td>6° 37,214'</td>
<td>53° 33,289'</td>
</tr>
<tr>
<td>440</td>
<td>6° 35,685'</td>
<td>53° 33,688'</td>
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</tbody>
</table>

### 11 The Netherlands, northern boundary

<table>
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<tr>
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<tr>
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<td>442</td>
<td>6° 14,347'</td>
<td>53° 33,356'</td>
</tr>
<tr>
<td>443</td>
<td>6° 00,295'</td>
<td>53° 32,295'</td>
</tr>
<tr>
<td>444</td>
<td>5° 55,497'</td>
<td>53° 31,964'</td>
</tr>
<tr>
<td>445</td>
<td>5° 40,285'</td>
<td>53° 31,769'</td>
</tr>
<tr>
<td>446</td>
<td>5° 33,542'</td>
<td>53° 30,412'</td>
</tr>
<tr>
<td>447</td>
<td>5° 06,734'</td>
<td>53° 25,551'</td>
</tr>
<tr>
<td>448</td>
<td>5° 02,336'</td>
<td>53° 24,218'</td>
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<td>449</td>
<td>5° 01,358'</td>
<td>53° 21,138'</td>
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<td>450</td>
<td>4° 45,087'</td>
<td>53° 14,785'</td>
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<td>4° 43,325'</td>
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<td>452</td>
<td>4° 37,086'</td>
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<tr>
<td>453</td>
<td>4° 33,291'</td>
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### 12 The Netherlands, western boundary

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<th>North</th>
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</thead>
<tbody>
<tr>
<td>454</td>
<td>4° 43,056'</td>
<td>52° 56,841'</td>
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<tr>
<td>455</td>
<td>4° 35,221'</td>
<td>52° 56,364'</td>
</tr>
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</table>
ANNEX 2

PSSA CHART
PROPOSED PARTICULARLY SENSITIVE SEA AREA

WADDEN SEA BOUNDARY

Reference: Nautical chart from Bundesamt für Seeschifffahrt und Hydrographie, BSH, Germany.
Nautical chart 1002, Edition 1991

[Coloured copies of the chart will be distributed at the meeting.]
ANNEX 3

EXISTING MEASURES

Measures adopted by IMO and at the national and EC levels

I. General measures

IMO measures

The IMO has issued numerous conventions to improve maritime safety and prevent pollution from ships, for example the International Regulations for Preventing Collisions at Sea, 1972 (as amended by Resolutions A.464 (XII), A.626 (15), A.678 (16) and A.736 (18)), COLREGs and SOLAS V.

EC measures

Also the European Union has already issued numerous Directives corresponding to IMO measures, including e.g. directives on port State control, marine equipment, notification obligations, and on the management of ship generated waste and cargo residues. These are continually being updated and implemented into national legislation.

According to the EC Habitat Directive (Council Directive 92/43/EEC) and the EC Bird Directive (Council Directive 79/409/EEC) Member States shall list areas of Community Interest respectively Special Protection Areas. These areas constitute the Natura 2000 network. Basically, the Wadden Sea, until 3 sea miles offshore except for the main shipping routes, has been listed as habitat areas according to the Habitat Directive and as Special Protection Areas according to the Bird Directive.

Other regional measures

Radio navigational warnings contain information that directly affects safety of life at sea and the protection of the environment. They are issued by NAVTEX, MRCC’s, VTS centers or other services.

Bilateral (NL & D) Local Rules and Traffic Regulations for the Ems estuary.
# NATIONAL MEASURES

<table>
<thead>
<tr>
<th>Denmark</th>
<th>Germany</th>
<th>Netherlands</th>
</tr>
</thead>
</table>
| Ministerial order on transfer of bunkers in the Danish territorial sea. | Regulations on the navigation of Federal waterways in national parks in the North Sea area.  
- Navigable Waterways Ordinance  
- VTS available in certain areas.  
- **Pilotage services and Deep Sea Pilotage Services available for various ports and areas.**  
- Modern aids to navigation (AIS, GPS, buoyage, lighthouses).  
- SAR and MRCC services available.  
- Emergency towing capacity available.  
- Deep Sea Pilotage Services available.  
- Agreement with private companies on keeping helicopter capacity in reserve to permit action to be taken swiftly in the case of emergencies and accidents at sea. | Additional Local Rules and Regulations (BPR, “Scheepvaartreglement Territoriale Zee” (STZ)).  
- VTS available in certain areas.  
- Pilotage services available for various ports.  
- Communication facilities available.  
- Differential GPS available.  
- Buoyage available in entire area.  
- Lighthouses available on all major islands and along the mainland coastline.  
- SAR services available.  
- Salvage tugs available. Powerful salvage tug (m.s. “WAKER”) stand-by.  
- Deep Sea Pilotage Services available.  
- Numerous RACONs are available on (offshore) platforms and buoys. |
II Collision avoidance, navigation, routing measures

IMO measures

IMO routeing schemes are in place in the North Sea to simplify traffic flows to reduce the collision hazard and to keep ships carrying certain dangerous or polluting goods away from the Wadden Sea coast. Traffic Separation Schemes in the concerned area adopted by the IMO are:

- At West Hinder - Off Brown Ridge
- Off Botney Ground - West Friesland
- East Friesland - Off Friesland
- North Hinder - Off Vlieland, Vlieland North and Friesland Junction
- Off Texel - In the approaches to Hook of Holland
- Jade Approach - German Bight Western Approach
- Terschelling-German Bight - In the approaches to river Elbe

The Deep-Water Route and Traffic Separation Scheme (TSS) from North Hinder to the German Bight via the Frisian Junction, is mandatory for the following classes of ships:

♦ Tankers of 10,000 GT + carrying oils as defined under Annex 1 of MARPOL 73/78;
♦ Ships of 5,000 GT+ carrying noxious liquid substances in bulk categories A or B of Annex II of MARPOL 73/78;
♦ Ships of 10,000 GT+ carrying noxious liquid substances in bulk categories C or D of Annex II of MARPOL 73/78; and
♦ Ships of 10,000 GT + carrying liquefied gases in bulk.

EC measures

Reference to paragraph V.

Other regional measures

None.

National measures

None.

III Pilotage, port entry and departure
IMO measures

Ships using the mandatory route for tankers from the North Hinder to the German Bight are recommended to use adequately qualified deep-sea pilots in the North Sea.

EC measures

*European Directive 93/75/EEC requires the Master and Operator of vessels carrying dangerous or polluting goods to report cargo details entering or leaving EC ports.*

*Dangerous goods are defined in:*

♦ *The International Maritime Dangerous Goods (IMDG) Code*
♦ *The International Gas Carrier (IGC) Code*
♦ *The International Bulk Carrier (IBC) Code*

*Polluting goods are defined in MARPOL Annexes I, II & III.*

European Directive 95/21/EEC (Port State Control)

Other regional measures

None.
## NATIONAL MEASURES

<table>
<thead>
<tr>
<th>Denmark</th>
<th>Germany</th>
<th>Netherlands</th>
</tr>
</thead>
</table>
| ♦ Pilotage is compulsory for the following:  
- Loaded oil tankers >1500 DWT;  
- Loaded chemical tankers carrying dangerous liquid chemicals covered by the IMO Chemical Code;  
- Gas carriers;  
- Vessels carrying radioactive cargoes;  
- Towing vessels of 150GRT+ navigating in dredged channels or marked navigation channels, into or past harbours or pilot stations (excluding harbour maneuvers); and  
- Tankers with uncleaned tanks not secured by inert gas.  

♦ Ships sailing to and from Danish ports shall comply with the rules laid down in the "Den danske havnelods" (The Danish Harbor Pilot book).  

♦ Tankers have to take a pilot when entering certain ports, terminals etc. | ♦ Compulsory district pilotage for:  
- Vessels with a length of 90 m or a breath of 13 m and more  
- Tankers carrying gas/chemicals/petroleum/petroleum products in bulk, or unloaded tankers if not cleaned, degassed or completely inerted  

♦ Additional shore based pilotage:  
- if visibility is reduced  
- if pilot cutter is in a sheltered position  
- if light buoys are withdrawn due to ice  
- if requested by the master  
- if ordered by the VTS-authority  

♦ Voluntary Deep sea pilotage available | ♦ Radar surveillance at Den Helder, Terschelling and Schiermonnikoog (for port entry and departure and Wadden Sea traffic only).  

♦ Harbour pilotage is compulsory for ships over 60m in length and for all vessels carrying oil, gas or chemicals. Voluntary deep-sea pilotage is available for ships required to use the North Hinder-German Bight mandatory route for tankers. Communications are normally carried out via VHF radio and ships are required to maintain a listening watch on VHF. Radar assistance is available on request in some ports. Pilotage is compulsory for Harlingen and other ports in the Wadden Sea. |
IV Vessel traffic services (VTS)

IMO measures
None.

EC measures
None.

Other regional measures
None.

NATIONAL MEASURES

<table>
<thead>
<tr>
<th>Denmark</th>
<th>Germany</th>
<th>Netherlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>No VTS arrangement in the area.</td>
<td>✦ VTS with permanent radar surveillance in following districts:&lt;br&gt; - VTS German Bight&lt;br&gt; - VTS Ems&lt;br&gt; - VTS Jade&lt;br&gt; - VTS Weser&lt;br&gt; - VTS Elbe&lt;br&gt;  ❥ Services offered:&lt;br&gt;  - Information Service&lt;br&gt;  - Navigational Assistance Service&lt;br&gt;  - Traffic Organisation Service&lt;br&gt;  ✦ Mandatory for all vessels exceeding 50 m. of length (river Ems 40 m) and all vessels carrying certain dangerous goods</td>
<td>✦ VTS Den Helder: All vessels equipped with VHF are requested to participate in this system. Vessels within the area should report when entering and leaving the VTS area. Traffic surveillance is provided; &lt;br&gt; ✦ VTS Terschelling: Reporting is mandatory for all vessels entering or leaving the VTS area; &lt;br&gt; ✦ Wadden Sea Central Reporting Station: Is responsible for co-ordinating the relevant maritime authorities with regard to all incidents within the Wadden Sea area;  &lt;br&gt; ✦ VTS Schiermannikoog: Provides radar surveillance services for the Terschelling-German Bight TSS with range up to 48 miles; and &lt;br&gt; ✦ VTS Delfzijl: VTS is mandatory for all vessels, which includes an information service.</td>
</tr>
</tbody>
</table>
V Environmental protection measures intended to reduce or combat pollution

IMO measures

Denmark, Germany and the Netherlands are Parties to MARPOL 73/78.

The designation of the North Sea and its coastal waters west of Great Britain and Ireland (North West European Waters) as a Special Area under MARPOL Annex I. This was implemented on a national level and entered into force in all three concerned countries.

The designation of the North Sea as a special area under MARPOL Annex V. Annex V entered into force in all three States concerned.

The designation of the North Sea as a Sox Emission Control Area under Annex VI of MARPOL 73/78 (not yet in force).

The 1990 London International Convention on Pollution Preparedness, Response and Co-operation (OPRC) promotes international co-operation in the event of a major oil pollution threat between all North Sea countries. The OPRC-HNS Protocol (not yet in force) establishes a framework for international co-operation in the event of incidents involving hazardous and noxious substances.

EC measures

Council Directive 93/75/ECC of 13 September 1993 concerning minimum requirements for vessels bound for or leaving Community ports and carrying dangerous or polluting goods (known as the HAZMAT Directive) has been in force since 1995.

The EC Directive 2000/59/EEC on port reception facilities for ship-generated waste and cargo residues, which entered into force in 2000, should be implemented by the concerned States by the end of 2002. It is the aim of the Directive to reduce the discharges of ship-generated waste and cargo residue into the sea, especially discharges, from ships using ports in the Community, by improving the availability and use of port reception facilities for ship-generated waste and cargo residues.

The EC Directive 1999/32/EC relating to a reduction in the sulphur content of certain liquid fuels.

As a follow up to the Erika incident, two other packages of measures are in the legislative procedure. Package 'Erika I' is completed and contains the following elements:

- further development of Port State Control;
- strengthening of provisions for and the control of Classification Societies;
- initiative for early phasing out of single hull tankers, mentioned in paragraph 8 above and being implemented in the EU by a regulation.

The proposals concerning package 'Erika II', passed on to the Council on 8 December 2000, consist of the following elements:

- setting up a common monitoring and information system for maritime traffic, which will in due course replace EC-directive 93/75/EEC;
- initiative for an additional compensation fund for damage by oil pollution;
- establishment of the European Maritime Safety Agency (EMSA).

Other regional measures

Bonn Agreement: basic agreement for co-operation in dealing with Pollution of the North Sea by Oil and other Harmful Substances. Close co-operation between B, DK, F, D, NL, N, S and UK. Zones of responsibility are established under the Bonn Agreement, for co-operation in terms of aerial surveillance and dealing with pollution of the North Sea by oil and other harmful substances.

Joint Maritime Contingency Plans on Combating Oil and Other Harmful Substances agreed between D and DK resp. NL (DENGER- resp. NETHGER-Plans), concerning bilateral co-operation especially in defined exterior and quick Response Zones.

Bilateral Administrative Agreements between D and DK resp. NL on co-operation in the field of aerial surveillance (coordination of flight times and corridors, joint flights, mutual assistance by aircraft of the other party).

Bilateral arrangements also apply between the Wadden Sea states in terms of Joint Maritime Contingency Plans.

D-NL-Memorandum of Understanding on Mutual Support in the Field of North Sea Emergency Towing Capacity (March 2000): mutual assistance by emergency towing vessels in an area between the outer limitation of the VTS-schemes and the coastline, incl. approaches to the seaports.

National measures

There are lots of different national measures regarding preventing and combating marine pollution.
Annex 15


We Beatrix, by the grace of God, Queen of the Netherlands, Princess of Orange-Nassau, etc. etc. etc. Greetings to all who shall see or hear these presents! Be it known:

Whereas We have considered that the need exists to adapt the Dutch legislation on the conservation of nature and landscape and that a legal basis is needed for granting subsidies to promote and support the policy on nature and landscape and payments for voluntary adapting farm management in specifically designated areas to contribute to the management of nature and landscape.

We therefore, having heard the Council of State, and in consultation with the States General, have approved and decreed as We hereby approve and decree:

Chapter I Definitions

Section 1

For the purposes of this Act and provisions laid down pursuant to this act:

a. Our Minister: Our Minister of Agriculture, Nature and Food Quality;
b. structure plan: structure plan as referred to in Section 9;
c. nature reserve: land or water, or a combination of land and water, that is of public interest for its natural beauty or particular scientific interest;
d. owner: the party registered as owner in the land register, on the understanding that if the land is subject to hereditary lease, or perpetual lease the owner shall be the hereditary leaseholder or the perpetual leaseholder, and that if the land is subject to hereditary lease for a specified period of time, a right of usufruct or a right of superficies, the hereditary leaseholder, the holder of the right of usufruct, or holder of the right of superficies registered in the land register shall also be understood to be the owner, provided that legal ownership is not held by a party other than the party registered in the land register;
e. user: the party which, by virtue of having a legal relationship other than that stated, makes use of the land;
f. area of scenic value, an expanse of land composed of undeveloped land, or cultivated and undeveloped land, the appearance of which, because of its structures, patterns, elements or otherwise, is of public interest for its historic and landscape value;
i. priority species: a species indicated as such in Annex II to Directive (EEC) no. 92/43;
j. priority natural habitat type: a natural habitat type indicated as such in Annex I to Directive (EEC) no. 92/43;
k. initiative taker: the party that takes the initiative for a plan, project or other action as referred to in the first paragraph of Section 19d;
l. conservation objective: objective or objectives as referred to in the second paragraph of Section 10a;
m. Natura 2000: European ecological network comprising special areas of conservation as referred to in Directive (EEC) no. 79/409 and Directive (EEC) no. 92/43;
n. existing use: an activity for which an annual permit may or may not be required that existed at the time the area was designated a protected nature reserve to implement Directive (EEC) no. 79/409 and Directive (EEC) no. 92/43, and has since been carried out uninterruptedly.
Section 2

1. Unless otherwise indicated, Provincial Executives shall mean the Provincial Executives of the province in which the areas as referred to in Section 10a, or nature reserves or areas of scenic value, or protected nature reserves or protected areas of scenic value are situated entirely or for the main part.

2. Provincial Executives shall not designate areas of scenic value partially situated in another province unless agreed with the Provincial Executives from the other provinces.

3. Provincial Executives shall not decide on applications for the permits referred to in Section 16, or on the issue of the declaration referred to in the first paragraph of Section 8.39b of the Environmental Management Act, nor shall they adopt a management plan as referred to in Section 17, unless agreed with the Provincial Executives of the other provinces in which the protected nature reserve is partially situated.

4. Provincial Executives shall not adopt the management plan referred to in Section 19a unless agreed with the Provincial Executives of the other provinces in which the area, designated under Section 10a, first paragraph, or areas for which designation is being considered under Section 12, third paragraph, is partially situated.

5. Provincial Executives shall not decide on applications for the permits referred to in Section 19d (1) unless agreed with the Provincial Executives of the other provinces in which the which the area, designated under Section 10a, first paragraph, or areas for which designation is being considered under Section 12, third paragraph, is partially situated, in so far as the permit relates to these parts.

Chapter II. Nature policy plan

Section 3

In this chapter Our Ministers shall mean: Our Minister together with Our Minister of Public Housing, Spatial Planning and the Environmental and Our Minister of Transport, Public Works and Water Management, in so far as matters are concerned that fall within their competence.

Section 4

Our Ministers shall adopt a nature policy plan at least once every eight years, which with a view to the sustainable conservation, restoration and development of natural and landscape values in the short, medium and long term, shall provide a basis for government decisions.

Section 5

1. The nature policy plan shall at least define the main planks of policy on:
   a. general nature and landscape values;
   b. protection of those areas and area categories indicated in the plan which are considered to have special nature and landscape values;
   c. the plant and animal species indicated in the plan to which special attention shall be devoted;
   d. information and research regarding nature and landscape;
   e. international developments in nature policy.

2. The nature policy plan shall provide an indication of:
   a. the manner and measures by which the main planks of policy shall be implemented over the next eight-year period;
   b. a reasonable estimate of the financial and economic consequences of the policy to be followed.
Section 6

1. In the plan Our Ministers shall also indicate the extent to which the proposed policy on nature and landscape is in line with or shall lead to amendments in national environmental policy and water management policy, and the extent to which and the time frame within which they intend to review the national environmental plan, as referred to in Section 4.3 of the Environmental Management Act and the National Policy Document on Water Management, referred to in the first paragraph of Section 3 of the Water Management Act.

2. The current nature policy plan shall also be taken into account when adopting government policy in areas other than those set out in the first paragraph, in so far as they affect the sustainable conservation, restoration and development of nature and landscape values.

Section 7

1. When preparing the nature policy plan Our Ministers shall involve those administrative bodies, institutions and organisations which they consider to be most concerned with the matters to be addressed. Provincial Executives shall always be involved.

2. Preparations for the nature policy plan Section 3.4 of the General Administrative Law Act shall apply. Anyone may put forward their views.

Section 8

1. The plan has a duration of eight years after it is adopted, unless a new plan is adopted in that period.

2. After the first four years of the plan's duration have elapsed, Our Ministers may, with due observance of Section 7, amend the plan after an assessment of the experiences over this period.

3. Our Ministers shall present the plan and any amendments made to the plan to the States-General and the Provincial Executives.

4. Our Minister shall announce the adoption of the plan and any amendments made to it in the Official Gazette, and shall indicate how to obtain the contents of the plan or the amendments made to it.

Section 9

There shall be a structure plan that provides an insight into the spatial planning aspects of the government's nature and landscape policy. The structure plan shall be the plan referred to in Section 2a of the Spatial Planning Act.

Section 9a

1. The National Institute for Public Health and the Environment (hereinafter referred to by its Dutch abbreviation: RIVM) shall submit a scientific report to Our Minister once every four years, describing the state of nature, forest and landscape, and the most likely and possible other future developments for a period indicated by Our Minister.

2. RIVM shall submit a scientific report to Our Minister on an annual basis, which partly in the light of developments described in earlier reports, shall describe the state of policy implementation, the progress made and any new developments. Should an unforeseen circumstance arise that may have important long-term consequences for the development of nature, forest and landscape, RIVM will describe the possible consequences in a separate report, at the request of Our Minister.
Section 9b

1. Our Minister shall, together with Our Ministers of Public Housing, Spatial Planning and the Environment, of Transport, Public Works and Water Management, and of Economic Affairs — in so far as they are concerned — appoint the government bodies that RIVM shall engage in the preparation of the reports referred to in Section 9a.

2. Our Minister may, together with Our Ministers of Public Housing, Spatial Planning and the Environment, of Transport, Public Works and Water Management, and of Economic Affairs — in so far as they are concerned — establish rules governing the manner in which the said appointed government bodies are engaged in the preparation of the reports.

3. RIVM and the said appointed government bodies shall provide each other when asked with all the information and details at their disposal which may be necessary for the preparation of the reports referred to in the first and second paragraphs of Section 9a.

Section 9c

1. Our Minister may give instructions on the expected developments that the descriptions in the report as set out in the first paragraph of Section 9a, are to be based on as well as the other matters that must be described therein.

2. Subject to the second paragraph of Section 9a and the first paragraph of this Section, Our Ministers shall not instruct RIVM and the said appointed government bodies on the content of the reports.

Section 9d

1. Our Minister shall submit the report referred to in the first paragraph of Section 9a to the States-General.

2. Our Minister shall also submit the report referred to in the second paragraph of Section 9a to the States-General at the same time as the budget.

3. The RIVM shall ensure that the reports are made available to the public.

Chapter III. Protected areas

Title 1. The designation of areas

Section 10

1. On the basis of the structure plan Our Minister may, by decree, designate a nature area as protected nature reserve. This designation shall be accompanied by a map indicating the protected nature reserve and an explanation.

2. If the nature reserve or part of it, is managed by one of Our other Ministers, Our Minister shall not take the decision referred to in the first paragraph, unless it is agreed with that other Minister.

3. If in cases other than the one referred to in the second paragraph one of Our other Ministers is legally authorised to take decisions regarding the protected nature reserve, consultation shall take place with that other Minister before the decision referred to in the first paragraph is taken.

Section 10a

1. Our Minister shall, by decree, designate areas to implement directive 79/409/EEC and directive 92/43/EEC.

2. The decision referred to in the first paragraph shall incorporate the conservation objective for this area. This conservation objective shall at least include:
   a. the objectives for the conservation of the area’s habitats insofar as required under directive 79/409/EEC, or
b. the objectives for the conservation of the natural habitats or populations of the plant and animal species living in the wild insofar as required under directive 92/43/EEC.

3. The conservation objective referred to in the second paragraph may also include objectives covering the conservation, restoration and development of areas of natural beauty or particular scientific interest other than those required under the directives referred to in the second paragraph.

4. The decision referred to in the first paragraph shall be accompanied by a map with a precise delineation of the designated area and an explanation.

5. Section 10, second and third paragraph, shall apply *mutatis mutandis*.

**Section 11**

1. Preparations for the decision referred to in Sections 10 (1) and 10a (1) shall be subject to Section 3.4 of the General Administrative Law Act, on the understanding that it is applied by the Provincial Executives.

2. Anyone may put forward their views.

3. Within four months of the expiry of the term laid down in section 3.16 (1) of the General Administrative Law Act, the Provincial Executives shall send to Our Minister the views put forward by the public accompanied by their own considerations. At the request of the Provincial Executives Our Minister may extend the term referred to in the first sentence by eight weeks.

**Section 12**

1. In case of urgent necessity Our Minister may, by decree, provisionally designate an area for which the decision referred to under Section 11 is being prepared, as protected nature reserve before the procedure referred to in Sections 11 and 13 has been completed.

2. The decision for provisional designation shall become redundant as soon as the definitive decision is taken with due observance of Sections 11 and 13, but always a year after the draft decision has been made available for public inspection in accordance with Section 11.

3. Paragraphs 1 and 2 shall apply *mutatis mutandis* to the areas referred to in Section 10a (1) on the understanding that the phrase in the second paragraph starting with ‘but always … and ending with Section 11’ does not apply.

**Section 13**

Within a year from the date the draft decision for the designation of an area as nature reserve has been made available for public inspection, Our Minister shall decide on the designation as nature reserve but not before he has received the considerations referred to in Section 11(2) or the terms referred to in that Section have expired.

**Section 14**

1. The decision to provisionally designate a nature area as nature reserve referred to in Section 12 shall be made known to the area’s owners and mortgagee.

2. Our Minister shall publish the decision to provisionally designate a nature area as nature reserve referred to in Section 12 in the Official Gazette.

3. If Our Minister does not take the decision to designate a nature area as nature reserve he shall make this known and shall notify this in accordance with paragraphs 1 and 2 and Sections 3:42 and 3:43 of the General Administrative Law Act.

4. Paragraphs 1, 2 and 3 shall apply *mutatis mutandis* to the decisions referred to in Section 10a (1).

**Section 15**

1. Our Minister may, by decree, change or withdraw, fully or in part, the decision to designate an area as nature reserve. The decision shall be accompanied by an explanation and in the case of a partial change or withdrawal a map indicating the area concerned.

2. In such cases section 10, paragraphs 2 and 3, and Sections 11 through 14 shall apply

3. Paragraphs 1 and 2 shall apply *mutatis mutandis* to the decisions referred to in Section 10a (1).
Section 15a

1. Areas that are designated under Section 10a(1) or areas that are considered for designation pursuant to Section 12(3) may not be designated as nature reserve pursuant to Section 10(1).
2. The decree designating an area as protected nature reserve pursuant to Section 10(1) shall become redundant from the date the area is part of or insofar as it is part of the designated area referred to in Section 10a(1).
3. If on the application of the second paragraph the decree designating an area as protected nature reserve has fully or partially become redundant, the conservation objective for the area designated pursuant to Section 10a(1) shall also apply to the objectives covering the conservation, restoration and development of areas of natural beauty or particular scientific interest as provided for in the redundant decision.

Title 2. Legal consequences

§ 1. Legal consequences for protected nature reserves

Section 16

1. In protected nature reserves it is prohibited, without a permit issued by the Provincial Executives or by Our Minister for the activities referred to in paragraph six, to carry out, have carried out or tolerate activities that may damage the area's natural beauty, scientific interest, or wildlife, or activities that may deface the area or violate the conditions or restrictions laid down in the permit.
2. Damaging activities always include activities that will damage the area's essential characteristics referred to in the decision to designate the area as protected nature reserve.
3. Insofar as the permit referred to in the first paragraph concerns carrying out, having carried out or tolerating activities that may have significant consequences for the area's natural beauty, scientific interest, or wildlife, it shall not be issued unless there is the certainty that those activities do not compromise the area's natural characteristics or unless an overriding public interest is at stake.
4. The prohibition referred to in the first paragraph shall also apply to such activities as referred to in that paragraph that may be carried out outside the protected nature reserve and are mentioned in the decision to designate the area as protected nature reserve referred to in Section 10, or in the decision for provisional designation referred to in Section 12. The activities allowed under the said permit may be subject to restrictions and exceptions regarding the time, the conditions, the objectives or the persons designated to carry them out.
5. This Section shall not apply to the activities laid down in the site management plan referred to in Section 17.
6. The activities referred to in the first paragraph for which a permit from Our Minister is required may be designated by order in council.
7. The order in council pursuant to paragraph 6 shall not enter into force until eight weeks after the date of issue of the Official Gazette in which it is published. The Senate and the House of Representatives of the States General shall be informed immediately of its publication.

Section 17

1. Provincial Executives may in agreement with the owner or user draw up a management plan for the whole or part of the protected nature reserve to ensure the conservation, restoration and development of its areas of natural beauty or particular scientific interest.
2. Management plans shall include a subsidy payment to be paid by the Provincial Executives to meet the costs and burdens ensuing from the implementation of the management plan that cannot reasonably expected to be borne, or borne fully, by the owner and user.
3. Provincial Executives shall bring the plan to the notice of Our Minister and the Municipal Executives of the municipalities where the protected nature reserve or the part of it covered by the management plan is situated.
4. The owner and user shall, each within the scope of their entitlement, ensure compliance with the management plan.

Section 17a [Defunct as of 20-09-2000]
Section 17b [Defunct as of 20-09-2000]

Section 17c [Defunct as of 20-09-2000]

Section 17d [Defunct as of 20-09-2000]

Section 18

1. The management plans referred to in Section 17 shall be drawn up for a maximum period of six years.
2. Management plans shall by operation of law be extended by a period equal to that which previously expired under the management plan that was drawn up.
3. Management plans shall not be extended by operation of law when the Provincial Executives, the owner or user, four weeks before the current management plan expires, has given written notification that extension of the management plan is not desired.
4. Provincial Executives may only give notification if:
   a. owners or users have not complied with the requirements laid down in the management plan in the appropriate manner over the previous period;
   b. unmodified extension of the management plan might result in management that in their judgement would not sufficiently ensure the conservation, restoration and development of areas of natural beauty or particular scientific interest of the protected nature reserve;
   c. there is a another, serious reason not to decide to extend the management plan period.

Section 19

1. Provincial Executives may in agreement with the owners or users modify an adopted management plan.
2. Section 17, third paragraph, shall apply mutatis mutandis.

§ 2. Legal consequences for areas implementing European requirements

Section 19a

1. After consultation with the owners, users or other stakeholders, Provincial Executives shall adopt management plans for areas designated under Section 10a, first paragraph, or areas for which designation is being considered under Section 12, third paragraph, which, with due observance of the conservation objective, describes the conservation measures to be taken and the manner thereof.
2. Management plans referred to in the first paragraph shall be drawn up for a maximum period of six years. Management plans may always be extended for a period of equal length.
3. A management plan shall at least include:
   a. a description of the envisaged results with a view to the conservation or restoration of natural habitats or populations of the plant and animal species living in the wild in a favourable conservation status in the designated area in conjunction with the area’s existing uses;
   b. a survey of the measures for the period covered by the plan with a view to the envisaged results referred to under a.
4. Preparations for management plans referred to in the first paragraph shall be subject to the procedure provided for by section 3.4 of the General Administrative Law Act.
5. Management plans shall be adopted only after consultation with municipal authorities and water boards in the area covered by the management plan.
6. Management plans referred to in the first paragraph shall be adopted for the first time within three years after the date the decision referred to in Section 10a, first paragraph, was taken.

Section 19b

1. By way of derogation from the provision laid down in Section 19a management plans referred to in that Section for areas designated under Section 10a, first paragraph, or areas for which designation is being considered under Section 12, third paragraph, that are entirely or in part managed by or for Our Minister or one of Our other Ministers shall, for the whole or the relevant part be adopted by Our Minister or by one of Our other Ministers in agreement with Our Minister and, where necessary after consultation with the owners, users and other stakeholders involved.
2. Management plans referred to in the first paragraph may be part of other plans aimed at the management of the areas referred to in the first paragraph whether or not these were adopted under a legal requirement.

3. Management plans shall be adopted only after consultation with provincial and municipal authorities and water boards in the area covered by the management plan.

4. Section 19a, paragraphs two, three, four and six shall apply mutatis mutandis

Section 19c
Defunct

Section 19d
1. In protected nature reserves it is prohibited, without a permit or in violation of the conditions or restrictions laid down in the permit issued by the Provincial Executives or by Our Minister for the activities referred to in paragraph three, to carry out or realise projects or other activities that in view of the area’s conservation objective may have an adverse effect on the quality of the natural habitats and the habitats of species in areas designated under Section 10a, first paragraph, or areas for which designation is being considered under Section 12, third paragraph, or disturb the species for which the area was designated. Such projects or other activities always include projects or activities that will damage the area’s essential characteristics.

2. The prohibition referred to in the first paragraph shall not apply to the realisation of projects or activities in accordance with the area’s management plan referred to in Sections 19a or 19b.

3. The projects or other activities referred to in the first paragraph for which a permit from Our Minister is required may be designated by order in council.

4. The order in council pursuant to paragraph 3 shall not be put forward until four weeks after the proposal is presented to the Senate and the House of Representatives of the States General.

Section 19e

On issuing the permit referred to in Section 19d, first paragraph, Provincial Executives shall take into account

a. the consequences of a project or other activity the permit relates to in view of the conservation objective of areas designated under Section 10a, first paragraph, or areas for which designation is being considered under Section 12, third paragraph, and

b. the management plan adopted under Section 19a or Section 19b.

Section 19f

1. The consequences of applications for the permit referred to in Section 19d, first paragraph, for new projects or other activities decided by Provincial Executives, which are not directly related to or necessary for the management of areas designated under Section 10a, first paragraph, or areas for which designation is being considered under Section 12, third paragraph, but which in themselves or in combination with other projects or activities may have significant consequences for the areas in question shall be assessed appropriately with due observance of the area’s conservation objective by the initiative taker prior to their submission to Provincial Executives.

2. The appropriate assessment concerning decisions on applications for the permit referred to in Section 19d, first paragraph, may be part of the EIA required for the said projects or activities.

3. The requirement for an appropriate assessment in preparations for the decision referred to in the first paragraph shall not apply when the person carrying out the said projects or activities does so to repeat or continue projects or activities for which appropriate assessments had already been made provided that new assessments are not likely to yield new insights into the significant consequences of the projects or activities.

Section 19g

1. The permit referred to in Section 19d, first paragraph, shall be issued only after the Provincial Executives have ascertained from the appropriate assessment referred to in section 19f, that the natural characteristics of the area involved will not be compromised.

2. By way of derogation from the first paragraph, Provincial Executives may, in the absence of alternative solutions, issue the permit referred to in Section 19d, first paragraph, for projects or activities in areas designated under Section 10a, first paragraph, or areas for which designation is being considered under Section 12, third paragraph, which do not support priority types of natural
habitat or priority species, to realise the said projects or carry out the said activities only if there are reasons of overriding public interest, including those of an economic or social nature.

3. By way of derogation from the first paragraph, Provincial Executives may, in the absence of alternative solutions, issue the permit referred to in Section 19d, first paragraph, for projects or activities in areas designated under Section 10a, first paragraph, or areas for which designation is being considered under Section 12, third paragraph, which do support priority types of natural habitat or priority species, to realise the said projects or carry out the said activities only:
   a. On the basis of arguments related to public health, public safety, or because of patently favourable effects on the environment.
   b. For other reasons of overriding public interest after advice from the European Commission.
4. Our Minister shall request the advice referred to in paragraph three (b).

Section 19h

1. If the permit referred to in Section 19d, first paragraph, is issued for reasons of overriding public interest for projects or activities of which it has not been established with any certainty that they do not compromise the natural characteristics of areas designated under Section 10a, first paragraph, or areas for which designation is being considered under Section 12, third paragraph, Provincial Executives shall always attach to the permit the requirement to take compensatory measures.
2. Provincial Executives shall always give the initiative taker the opportunity to make proposals for compensatory measures first, in good time.
3. Proposals for compensatory measures shall always include the manner in which these measures are to be taken and a time schedule.
4. Where compensatory measures are prescribed with a view to the objectives referred to in Section 10a(2) under b and c, the envisaged result of these measures must have been achieved at the moment when the significant consequences referred to in Section 19f, first paragraph, become apparent, unless it can be demonstrated that this concurrence is not necessary to safeguard the area’s contribution to Natura 2000.
5. By order in council Our Minister may, in agreement with Our other Ministers who are also involved, set further requirements with regards to compensatory measures.

Section 19i

Where Our Minister is authorised to decide on the application of a permit referred to in Section 19d, first paragraph, Sections 19e, 19f, 19g and 19h shall apply mutatis mutandis.

Section 19j

1. Decisions for the adoption of plans that in view of the area’s conservation objective may have an adverse effect on the quality of the natural habitats and the habitats of species in areas designated under Section 10a, first paragraph, or areas for which designation is being considered under Section 12, third paragraph, or disturb the species for which the area was designated requires approval of Our Minister. A plan prepared by one of Our other Ministers shall be adopted in agreement with Our Minister.
2. By way of derogation from the first paragraph decisions for the adoption of plans drawn up by municipal authorities and water boards shall be approved by Provincial Executives.
3. Sections 19e, 19f, 19g and 19h shall apply mutatis mutandis to the decisions for the adoption of plans referred to in the first paragraph, irrespective of the restrictions in the legal provision on which it is based.
4. By way of derogation from the first paragraph, the plans referred to in Section 19a shall not require approval from Our Minister.

Section 19k

1. Provincial Executives shall notify Our Minister of the projects and activities referred to in the first paragraph of Section 19f, and of the plans referred to in the second paragraph of Section 19j and send Our Minister a copy of the permits referred to in the first paragraph of Section 19d, and the decisions of approval referred to in the second paragraph of Section 19j, taken under Section 19g. They shall also notify Our Minister of the compensatory measures referred to in Section 19h.
2. Our Minister shall notify the Commission of the European Communities of the compensatory measures referred to in the first paragraph.

Section 19ka

1. If, for the realisation of a project or activities, in addition to the permit referred to in the first paragraph of Section 19d, other decisions need to be taken, the administrative body to which the initiative taker has submitted the relevant application shall see to it that he is informed of those other decisions which the administrative body may reasonably assume are necessary.

2. The initiative taker may request in writing one of the administrative bodies to coordinate the decision-making process.

3. The administrative bodies involved may also ex officio decide to coordinate the decision-making process. If this is the case, the initiative taker shall be informed.

4. If the request referred to in the second paragraph has been submitted or if coordination of the decision-making process has been decided on, the administrative bodies involved shall appoint a coordinating body from their midst. In the absence of such a coordinating body the administrative body itself shall be the deciding authority.

5. The coordinating administrative body shall work towards an effective and coherent decision-making process. The other administrative bodies involved shall cooperate with them to make the decision-making process a success.

§ 3. Other legal consequences

Section 19l

1. All shall take sufficient care for the conservation of areas designated under Section 10, first paragraph or Section 10a, first paragraph, or areas for which designation is being considered under Section 12.

2. The care, referred to in the first paragraph implies that any one who knows or may reasonably be expected to know that, in the light of the area’s conservation objective, their actions or failure to act may have adverse consequences for the areas designated under Section 10a, first paragraph, or for the essential characteristics of areas designated under Section 10, first paragraph, shall refrain from such actions or, where this cannot reasonably be expected, take all possible measures to prevent the adverse consequences or at least limit or undo them.

Section 20

1. Provincial Executives may restrict access to areas or parts thereof designated under Section 10, first paragraph or Section 10a, first paragraph, or areas for which designation is being considered under Section 12 in so far as this is necessary for the protection of their nature values.

2. If the areas referred to in the previous paragraph are entirely or in part managed by or for Our Minister or one of Our other Ministers, the authorisation, referred to in the first paragraph, shall be given by Our Minister in agreement with Our other Minister.

3. It is prohibited to be in the areas or parts thereof designated under Section 10, first paragraph or Section 10a, first paragraph, or areas for which designation is being considered under Section 12, in violation of the restrictions referred to in the first and second paragraph.

4. The prohibition laid down in the third paragraph shall not apply to the owner or user of the areas or parts thereof designated under Section 10, first paragraph or Section 10a, first paragraph, or areas for which designation is being considered under Section 12, if their user right extends to the said areas.

Section 21

1. If, as a result of a lack of measures, the natural beauty or scientific interest of a protected nature reserve are, or threaten to be, seriously compromised, Provincial Executives may decide to put the necessary measures in place to restore or maintain the area’s natural beauty or scientific interest.

2. The owner and user shall tolerate such measures.

3. Provincial Executives shall not put the necessary measures in place until they have notified the
owner and user of their intentions, and, unless immediate action is required, not until four weeks of their written notification have elapsed.

4. The first, second and third paragraph shall apply mutatis mutandis to the areas designated under Section 10a, first paragraph, or areas for which designation is being considered under Section 12, third paragraph, on the understanding that the necessary measures are taken if, in the light of the conservation objective, the quality of the natural habitats and the habitats of species in the designated area is compromised or if disturbing factors should arise that could have a significant effect on the species for which the area was designated. If the area is managed by or for Our Minister or one of Our other Ministers, the necessary measures shall be put in place by Our Minister or one of Our other Ministers in agreement with Our Minister.

Section 22

1. After consultation with the owners and users Provincial Executives may put up notices in the area to announce its designation as protected nature reserve and the legal consequences this entails.

2. The owners and users shall tolerate such notices being put up in the area.

3. The first and second paragraph shall apply mutatis mutandis to the areas designated under Section 10a, first paragraph, or areas for which designation is being considered under Section 12, third paragraph.

Chapter IV. Protected areas of scenic value

Section 23

1. Provincial Executives may, by decree, designate areas of scenic value as protected areas of scenic value.

2. If the area concerned has already been designated as protected nature reserve, Provincial Executives shall take this into account when drawing up the decree.

3. Provincial Executives may, by decree, change or withdraw, fully or in part, the decision to designate areas of scenic value as protected areas of scenic value.

4. The second paragraph and Sections 24 to 26 shall apply mutatis mutandis to the decree, referred to in the third paragraph.

Section 24

1. The decree referred to in Section 23, shall at least include:
   a. a description of the characteristics of the areas of scenic value, in so far as these characteristics are visible;
   b. an indication of the activities that might compromise the characteristics referred to in paragraph a.

2. The decree shall be accompanied by a map with a precise delineation of the designated area and an explanation.

Section 25

1. Before deciding to designate an area as a protected area of scenic value, Provincial Executives shall send the draft decree to the municipal council of the municipalities in which the protected area of scenic value is situated and to the provincial planning authorities. The municipal council shall make recommendations within six months of receiving the draft decree. The provincial planning authorities shall make recommendations within six months of receiving the draft decree.

2. Within a year of sending the draft decree referred to in the first paragraph, Provincial Executives shall decide whether to assign protected status to the area but not without first receiving the recommendations or before the period referred to in the first paragraph has elapsed.

3. Provincial Executives shall publish their decision to designate an area as a protected area of scenic value in the Official Gazette and in one or more local newspapers in the area concerned.
4. Provincial Executives shall send a copy of their decision to designate an area as a protected area of scenic value to Our Minister and the municipal council of the municipalities in which the protected area of scenic value is situated.

Section 26

1. The municipal council responsible for the area in which the protected area of scenic value is situated shall adopt a land use plan as referred to in the Spatial Planning Act, to protect the area of scenic value. Provincial Executives may lay down a time limit for this in the decree.
2. In the decree designating an area as protected area of scenic value Provincial Executives shall determine whether, and if so, to what extent, existing spatial plans can be considered to be protected area plans in the sense of the first paragraph.

Chapter V. International obligations

Section 27

1. Our Minister shall designate areas for the implementation of treaties or other international obligations on nature and landscape conservation, with the exception of EEC Directive no. 70/409 and EEC Directive no 92/3, where this is required under the said treaties or other international obligations.  
2. The decision referred to in the first paragraph shall be accompanied by a map with a precise delineation of the designated area and an explanation. The explanation must include details of how conservation of the area will be achieved, in line with the provisions laid down in the said treaties or obligations.  
3. The decision referred to in the first paragraph shall be published in the Official Gazette and in one or more local newspapers in the area concerned.

Section 28

Before deciding to designate the areas referred to in Section 27 (1), the Minister shall consult the provincial and municipal councils of the areas concerned.

Section 29

1. By order in council further rules may be set with regards to the implementation of treaties or other international obligations on nature and landscape conservation laid down in this Act.
2. The rules referred to in the first paragraph may include criteria for assessing areas to be designated under Section 27.
3. The rules referred to in the first paragraph may also include the option to provisionally designate an area for which the procedure referred to under Section 28 has not yet been completed.

Section 29a

1. Without prejudice to what is established elsewhere in this Act or by order in council, rules on matters to which this Act applies may be set by Ministerial order, on condition that these rules only apply to the implementation of a treaty which is binding for the Netherlands or to other decisions of organisations governed by international law.
2. Under the Ministerial order referred to in the first paragraph, matters established under this Act, or by order in council may be declared null and void, if this is required for the correct and timely implementation of the treaty or decision referred to in the first paragraph.
3. If matters established under this Act or by order in council under this Act are declared null and void, Our Minister shall ensure replacement of the Ministerial order. If this replacement requires an Act, a legislative proposal shall be submitted to the States General within two years of the implementation of the Ministerial order. If replacement requires an order in council, recommendations shall be made to Us within a year of the order coming into effect.
Chapter VI. Compensation

Section 30

For the purposes of this Chapter, the competent authority shall be the body that has taken or is deemed to have taken the decision referred to in Section 31.

Section 31

1. If it can be demonstrated that a stakeholder as a result of a decision made under Chapter III of this Act, suffers or will suffer damage that should not or not fully be at the expense of the stakeholder and for which compensation through purchase, expropriation or otherwise is not sufficient, or not sufficient enough, the body that has taken or is deemed to have taken the decision, may at the stakeholder’s request grant him or her a reasonable compensation.

2. For such compensation requests the competent authority may ask the advice of the damage assessment committee, referred to in Section 32.

Section 32

1. A damage assessment committee shall be set up by the competent authority.

2. The damage assessment committee shall be made up of one or more members.

3. Members of the damage assessment committee set up by Our Minister may not be employed as official at the Ministry or at a service, business or agency working under the responsibility of Our Minister.

4. For the purposes of this chapter, the official referred to in the third paragraph shall mean any person equal to those working under a civil law contract of employment.

5. Members of the damage assessment committee may not hold the following positions:
   a. Queen’s commissioner
   b. a member of Provincial Executives
   c. an official appointed by or on behalf of provincial authorities or answerable to them.

6. For the purposes of this chapter, the official referred to in paragraph 5 (c) shall mean any person equal to those working under a civil law contract of employment in the service of the provincial authorities.

Section 33

1. If the competent authority decides to ask the advice of the damage assessment committee, it shall send a request to that effect within two weeks of receiving the application for damages. The request for advice shall be accompanied by all relevant documents and the applicant shall be informed forthwith.

2. The competent authority shall cooperate with the damage assessment committee as required.

Section 34

1. The damage assessment committee shall give the applicant or their representative the opportunity to explain their application for damages at a public meeting.

2. A damage assessment committee set up by Our Minister may summon officials employed by the Ministry or a service, business or agency working under the responsibility of Our Minister to appear at a public meeting to be heard.

3. A damage assessment committee set up by Provincial Executives may summon one or more members of the Provincial Executive, including its chair and officials appointed by or on behalf of provincial authorities or answerable to them to appear at a public meeting to be heard.

4. If the damage assessment committee wishes to visit the scene of the damage it shall give the applicant and the competent authority prior notification of the time of the visit.

Section 35

The damage assessment committee shall submit a reasoned advice to the competent authority within thirteen weeks of receiving the request for advice. A copy of the advice shall be sent to the applicant at the same time.
Section 36

1. The competent authority shall give the applicant or their representative the opportunity to present his or her view of the advice, in person or in writing, in the presence of the damage assessment committee.

2. If the damage assessment committee was set up by Provincial Executives the view, referred to in the first paragraph, when given in person, shall be presented before one or more members of the Provincial Executive, including its chair.

3. At the competent authority’s request the damage assessment committee shall further explain the advice and when asked, give its opinion of the applicant’s view of the matter.

Section 37

The costs of the damage assessment committee shall not be passed on to the applicant.

Section 38

The competent authority shall within nine weeks of receiving the advice from the damage assessment committee give their ruling or, if such advice was not asked, within thirteen weeks from receiving the request for compensation.

Chapter VII. Appeal and registration

Section 39

1. Stakeholders may appeal against the decisions taken under this Act by writing to the administrative law department of the Council of State.

2. Decisions referred to in Section 15, shall not come into effect until the term of appeal has expired or in the event of an appeal, while the appeal is decided.

Section 40

Our Minister shall register the decrees pursuant to Section 10 (1), Section 10a (1) or Section 15 forthwith in the public registers referred to in Section 16 of Book III of the Civil Code, if within the terms that apply no objection or appeal was lodged or in the event of an appeal, while the appeal is decided. Section 24(1) of Book III of the Civil Code does not apply.

Chapter VIII. Procedure for the issue of permits

Section 41

1. In applying for the permits referred to in Sections 16 and 19d applicants shall motivate their interests.

2. The receipt of applications shall be confirmed in writing.

Section 42

1. Applications for permits shall be decided on within thirteen weeks from receiving them.

2. The body that decides on the issue of permits may extend this period once, by thirteen weeks. The applicant and the Municipal Executive, referred to in Section 44, shall be informed of the extension of this period.

3. The body that decides on the permits referred to in Sections 16 and 19d may decide to issue, change or withdraw a permit and shall make their decision known in one or more local newspapers in the area concerned or in an other appropriate manner. Giving the factual contents will suffice.
Section 43

1. A permit may be subject to conditions. A permit may be subject to restrictions. By order in council further rules may be set with regards to the said conditions and restrictions.
2. A permit may be withdrawn or changed if:
   a. its holder acts in violation of the conditions or restrictions the permit is subject to;
   b. the information on the basis of which the permit was issued proves to be incorrect or incomplete to the extent that had the information been correct or complete the decision would have been different;
   c. the permit was issued in contravention of the legal provisions in place; or
   d. the circumstances since the permit was issued have changed to such an extent that, had those circumstances existed at the time of issue, the permit would not have been issued without conditions or restrictions or only subject to other conditions or restrictions.

Section 44

1. If Our Minister is authorised to issue permits he shall send a copy of the application and the confirmation of receipt to the Provincial and Municipal Executives of the area covered by the permit.
2. If Provincial Executives are authorised to issue permits they shall send copies of the documents, referred to in the first paragraph, to the Municipal Executives of the area covered by the permit and to Our Minister.
3. The Provincial and Municipal Executives or the Municipal Executives may within eight weeks of the date stated on the confirmation of receipt present their view to the body that decides on the permits.

Section 45

1. Our Minister may, if it is in the public interest, advise Provincial Executives in their decision on the permits referred to in Sections 16 and 19d, permits already issued under Section 16 and 19d and the management plans referred to in Sections 17 and 19a.
2. Our Minister shall consult with the Provincial Executives on his intention to advise them.
3. In their decision Provincial Executives shall give notice of the advice received from Our Minister.
4. If, within the term given, Provincial Executives do not, or not properly, follow up the advice referred to in the first paragraph, Our Minister shall decide on the permit concerned.

Section 45a

1. Our Minister may, if it is in the public interest, advise the administrative body on the decisions referred to in the first paragraph of Section 19.
2. The power referred to in the first paragraph shall not apply to administrative bodies belonging to the State.
3. Our Minister shall consult with the administrative bodies on his intention to advise them.
4. The administrative bodies shall, within six months, bring the decision referred to in the first paragraph in line with the advice of Our Minister.

Section 46 [Defunct as of 01-10-2005]

Chapter IX [Defunct as of 17-02-1999]

Section 47 [Defunct as of 17-02-1999]

Section 48 [Defunct as of 17-02-1999]
Chapter X. Enforcement

Section 49

1. The provisions under or pursuant to this Act shall be enforced by:
   a. The officials Our Minister has appointed for this purpose by decree;
   b. The officials Our Minister of Justice has charged under Section 17 of the Economic Offences Act with the investigation of punishable offences under or pursuant to this Act, and
   c. The officials Provincial Executives have, by order, appointed for this purpose.

2. The decree referred to in the first paragraph under a, shall be published in the Official Gazette.

Section 50 [Defunct as of 01-10-2005]

Section 51 [Defunct as of 01-10-2005]

Section 52 [Defunct as of 01-10-2005]

Section 53 [Defunct as of 01-10-2005]

Section 54 [Defunct as of 01-10-2005]

Section 55 [Defunct as of 01-10-2005]

Section 56 [Defunct as of 01-10-2005]

Section 57

1. Our Minister shall be authorised to apply administrative enforcement with respect to the provisions under or pursuant to this Act concerning the projects and other activities for which he is authorised to issue a permit under Sections 16 and 19d.

2. At the request of Our Minister Provincial Executives shall issue a decree to allow the application of administrative enforcement if the provisions under or pursuant to this Act are not observed. Our minister may also determine a term within which his request must be met.

3. Provincial Executives shall send a copy of the decree referred to in the second paragraph to Our Minister.

Chapter XI. Final and transitional provisions

Section 58

1. In the event of the intended acquisition of land under Title VII of the Expropriation Act for nature conservation purposes Our Minister may prohibit the activities that compromise the natural beauty or scientific interest of the land intended for acquisition.

2. The prohibition no longer applies if the ownership of the land is conveyed to the expropriated party or if the intended acquisition has not been effected within two years unless there is a court case pending as referred to in Chapter III of Title I of the Expropriation Act. The term may be extended by one year at the most by a royal decree published in the Official Gazette.

3. Our Minister shall at all times be authorised to withdraw the prohibition in full or in part or to grant an exemption for it.
4. Our Minister shall publish the prohibition in the Official Gazette.

Section 59

Our Minister, and Provincial Executives may appoint officials to have access to all protected nature reserves as required for the performance of their duties.

Section 60

1. Decisions taken under Sections 7, 11, 12, 14, 18, 21, first paragraph, 28, 29, first paragraph, 30 and 31 of the Nature Conservation Act shall be equal to the decisions taken under Sections 10, 15, 16, 17, 31, 10, 49, first paragraph, 59 and 58 of this Act.

2. Decisions taken under Section 16 (2) under of c, the Nature Conservation Act, shall be equal to the decisions taken under Section 16 of this Act.

Section 60a

1. Decisions taken under Section 12 of the Nature Conservation Act for the projects and activities referred to in the first paragraph of Section 19d, shall apply to areas designated under Section 10a, first paragraph, or areas for which designation is being considered under Section 12, third paragraph as decisions taken under Section 19d.

2. This Act shall not apply to decisions on applications for permits or exemptions and other applications for authorisation governed by Article 6 of Directive (EEG) no. 92/43 received before this Act entered into force until the term of appeal has expired or in the event of an appeal, while the appeal is decided.

3. Management plans adopted under Section 14 of the Nature Conservation Act shall remain valid for the period for which they were adopted.

Section 61

Areas designated by Our Minister for the implementation of treaties or other international obligations on nature and landscape conservation before this Act entered into force shall count as areas designated under Section 27 of this Act.

Section 62

1. Decisions taken under the first paragraph of Section 8 of the Nature Conservation Act before this Act enters into force, shall remain subject to the procedures under Section 9 of the said Act.

2. Decisions taken under the second paragraph of Section 8 of the Nature Conservation Act before this Act enters into force, shall count as decisions taken under Section 12(1) of this Act on the understanding that to such decisions the procedures under Section 9 of the Nature Conservation Act apply.

3. The decisions referred to in Section 10, taken with due observance of the first paragraph, shall mention the activities referred to in Section 16(4) of this Act.

Section 63

1. Decisions on the applications for the permits or exemptions referred to in Section 12 or 16(2) under c of the Nature Conservation Act received before this Act entered into force, shall remain subject to the said Act until the term of appeal has expired or in the event of an appeal, while the appeal is decided.

2. The first paragraph shall apply mutatis mutandis to applications made before this Act entered into force for permits to carry out the activities referred to in Section 21(1) of the Nature Conservation Act in a protected nature reserve.
Section 64

The opportunity to file an objection or an appeal against decisions made known before this Act entered into force or the treatment of an objection or appeal made before this Act came into force shall remain subject to the Nature Conservation Act.

Section 65

By way of derogation from the provision under Section 16(4), the protected and state-owned nature reserves referred to in Sections 7(1) and 21(1) of the Nature Conservation Act designated as such under the Nature Conservation Act before this Act came into force, shall be subject to the prohibition under Section 16(1) of this Act with respect to the damaging activities carried out outside the protected nature reserve without them being mentioned in the decision to designate the area as protected nature reserve.

Section 66

The owner and user of a protected nature reserve shall tolerate the notices put up under Section 15 of the Nature Conservation Act after the Act has been repealed.

Section 67

Decisions on the application of administrative enforcement taken before the date this Act came into force and the resulting execution of the activities referred to in Section 29 first and second paragraph of the Nature Conservation Act, shall remain subject to the said Act.

Section 68

[Contains amendments to the Economic Offences Act.]

Section 69

[Contains amendments to the Water Management Act]

Section 70

[Contains amendments to the Environmental Management Act]

Section 71

1. [Contains amendments to the Nature Conservation Act.]

2. The Nature Conservation Act shall be repealed.

Section 72

[Amends this Act.]

Section 73

[Contains amendments to the General Administrative Law Act]

Section 73a

1. The Wet deelneming Grevelingen shall be repealed.

2. Natuur- en Recreatieschap De Grevelingen shall receive 9.75 million euros in compensation for the withdrawal of government services provided the money is spent on nature, landscape and recreation in De Grevelingen.
3. Natuur- en Recreatieschap De Grevelingen or its legal successor shall be accountable to Our Minister of Agriculture, Nature and Food Quality for the way the money is spent and shall submit an annual statement to that effect accompanied by an auditor’s report. The first sentence shall apply until 1 January 2030 or, if earlier, up to 1 January of the year following the year Natuur- en Recreatieschap De Grevelingen or its legal successor ceases to exist.

4. If the condition laid down in the second paragraph or the requirement laid down in the third paragraph, first sentence, is not met, Our Minister of Agriculture, Nature and Food Quality may claim back the amount of compensation fully or in part.

Section 74

This Act shall enter into force with effect from the date determined by royal decree which may be different per Section or part of a Section.

Section 75

This act shall be cited as: the Nature Conservation Act and shall give the year of the Official Gazette in which it is published

Signature

Direct and ordain that these presents shall be placed in the Official Gazette and that all the ministries, authorities, bodies and officials who may be concerned, shall strictly enforce its execution.

Given in the Hague, 25 May 1998

Beatrix

The Minister of Agriculture, Nature Management and Fisheries

J.J van Aartsen

Published on 14 July 1998

The Minister of Justice,
W. Sorgdrager
Annex 16

Part 4 of the "Third Policy Document on the Wadden Sea"
- a Key National Planning Decision (PKB), 2007
Developing the Wadden Sea for nature and man

Part 4 of the key national spatial planning decision (PKB) on the Wadden Sea (text approved by Parliament)

Developing the Wadden Sea for nature and man

Part 4 of the ‘Third Policy Document on the Wadden Sea’ – a key national spatial planning decision (PKB) (text approved by Parliament)

January 2007

The PKB was drawn up by the Ministry of Housing, Spatial Planning & the Environment (VROM) in cooperation with the Ministries of Agriculture, Nature & Food Quality (LNV), Transport, Public Works & Water Management (VenW) and Economic Affairs (EZ).
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1. The nature and context of the Policy Document

1.1 The nature and scope of the PKB

This key national spatial planning decision (PKB) contains the main elements of government policy for the Wadden Sea. The PKB is area-specific in character and incorporates the spatial and spatially relevant elements of government policy for the Wadden Sea. The government will be guided by this PKB when engaging in international cooperation initiatives relating to spatial planning, making decisions on spatial-planning projects and preparing structure schemes and sectoral policy documents of relevance to the Wadden Sea. The PKB also lays the foundations for the spatial planning policy of provinces and municipalities.

Some statements made in the PKB are directly binding on other authorities. These are the concrete policy decisions within the meaning of Section 2a, subsection 1 of the Dutch Town and Country Planning Act (WRO). Other authorities must take these decisions into consideration when drawing up their spatial plans. Those sections of the PKB with the status of concrete policy decisions are printed in **bold, italic, blue and underlined**. The other statements in this PKB are of an indicative nature. Provinces and municipalities will have to take these statements into account when drawing up regional, structure and land-use plans. A number of statements are of such importance to the implementation of government policy that they have acquired the status of ‘decisions of vital importance’. This means that the government can only deviate from these statements by revising the PKB. These decisions of vital importance within the meaning of Article 3, para. 2 of the Decree on Spatial Planning are printed in **bold and blue**.

1.2 Plan horizon and planning period

The year 2030 is used in this PKB as the plan horizon for the Wadden Sea spatial planning vision and development perspective. The Wadden Sea Policy as outlined in this PKB will remain effective for a period of 10 years from the entry into force of this PKB. This period is designated as the planning period. The PKB can be modified in the meantime (e.g. if the results of the studies announced in the PKB warrant such an adjustment).

1.3 Geographical boundaries

**PKB area**

The “PKB area” referred to in this Key National Spatial Planning Decision is understood to be the area shown in PKB map A.
Annex 16, Key National Planning Decision, PKB

The boundaries of the PKB area extend from the coastal waters off Den Helder to the national border with Germany in the Dollard, including the area in the Ems estuary that is disputed between the Netherlands and Germany. The northern boundary of the PKB area is formed by the seaward toe of the flood defences, breakwaters and the harbour entrances and ferry causeways on the Wadden Sea side of the islands and, in the absence of these structures, includes the salt marshes and mudflats of the Wadden Sea coast of the islands as well as part of the inlets between the islands. The southern boundary of the PKB area is formed by the seaward toe of the flood defences, breakwaters and the harbour entrances and ferry causeways of the mainland of North Holland, Friesland (Fryslân) and Groningen and by the seaward toe of the IJsselmeer Dam (Afsluitdijk).

A more detailed description of the PKB boundary along the North Sea Coastal Zone and the Wadden Islands, together with the corresponding coordinates, is included in Appendix 1 to this PKB. References to the Wadden Sea in this PKB should be understood to mean the PKB area.

Wadden Sea Region
For the purposes of this PKB, the “Wadden Sea Region” refers to the Wadden Sea, the Wadden Islands, the inlets between the islands, the North Sea Coastal Zone up to 3 nautical miles offshore, and also the territory of the mainland municipalities that border the Wadden Sea. The Wadden Sea Region is shown in explanatory map 1.

The policy formulated in this PKB also relates to developments outside the PKB area in so far as these are of direct relevance to the PKB area itself. This so-called “external effect” is discussed in more detail in section 5.2.

1.4 International framework
The international framework for the Wadden Sea Policy is formed by international agreements and European Directives. Besides underlining the internationally recognised assets and uniqueness of the Wadden Sea, these also impose demands on national policy for the Wadden Sea. The Netherlands contributes to this international framework through its active involvement in international consultations.

The following are the most important international agreements and European Directives:

Schiermonnikoog Declaration
The Netherlands, Germany and Denmark have been collaborating to protect the Wadden Sea since 1978. The trilateral cooperation and conservation area is shown in explanatory map 7. With this agreement, the three countries are discharging their collective responsibility for the protection and sustainable development of the international Wadden Sea as a nature reserve of great international significance, as set down in the Schiermonnikoog Declaration (2005).

Bern Convention
The Bern Convention concerning ‘the conservation of wild flora and fauna and their natural habitats in Europe’ was signed in 1979 and came into force in 1982.

Bonn Convention
The Bonn Convention on the Conservation of Migratory Species of Wild Animals’ was signed in 1979 and entered into force in 1983.
Ramsar Convention
Under the Ramsar Convention (1971), the Wadden Sea was designated as a wetland in 1984, with the emphasis being placed on conservation of its ecological assets. The boundaries of the wetland are based on ecological criteria. The Ramsar wetlands in the Northern Netherlands are shown in explanatory map 8.

The Birds and Habitats Directives
The European Union adopted the Birds Directive and the Habitats Directive in 1979 and 1992, respectively. The aim of these Directives is to maintain biological diversity in Europe. The Birds Directive aims to protect all wild bird species, while the Habitats Directive relates to the preservation of natural habitats and the wild flora and fauna in the European territory of the Member States. The Wadden Sea has been designated as a "special protection area" (SPA) under the Birds Directive since 1991 and as a "special area of conservation" (SAC) under the Habitats Directive since 2003. The protection of the areas designated under the Birds and Habitats Directives was enshrined in national legislation by the 1998 Nature Conservancy Act. The areas designated under the Birds and Habitats Directives are shown in explanatory maps 2 and 3, respectively.

European Water Framework Directive
The European Water Framework Directive, which came into force in 2000, requires all of Europe’s water bodies (surface, estuarine and groundwater) to achieve "good status" by 2015. For surface waters, this means both good ecological status and good chemical status. This applies to fresh surface water, transitional waters and coastal waters. For territorial waters as whole, Member States must endeavor achieve good chemical status. A fundamental premise of the Water Framework Directive is the adoption of a river basin district structure, whereby coastal waters are assigned to the nearest or most appropriate river basin district. The Wadden Sea falls under the basin districts of the rivers Rhine and Ems. See explanatory map 9.

Particularly Sensitive Sea Area
In 2002 the International Maritime Organization designated the Wadden Sea (and parts of the adjacent North Sea) as a Particularly Sensitive Sea Area (PSSA) – see explanatory map 10. Designation of the Wadden Sea as a PSSA is regarded as a recognition of the extensive package of existing protective measures for the Wadden Sea and does not result in additional restrictions for shipping or the use of harbours. The PSSA status is mainly intended to raise awareness of safe shipping (at national and international level).

Integrated Coastal Zone Management
Based on a Recommendation of the European Parliament and Council concerning "Integrated Management of Coastal Zones", the Netherlands presented a report about implementation in the Netherlands to the European Commission in February 2006. The Wadden Sea was included in this report as an example of international cooperation with regard to integrated management of coastal zones.
Ems-Dollard Convention
The environmental protocol (1996) to the Ems-Dollard Convention (1960) forms the basis for the coordination of policy and management for the area of the Ems-Dollard estuary which has been under dispute with Germany. The PKB on the Wadden Sea forms the Dutch point of reference in connection with the policy that is to be adopted with Germany in relation to the management of this area. Within the Ems-Dollard cooperation area, the Netherlands has designated parts of the Hond-Paap area as a special area of conservation under the Habitats Directive.

The role played by the Netherlands in the international consultations has been as follows:

Schiermonnikoog Declaration
Cooperation with the governments of Germany and Denmark will be reinforced and further developed, building on the Schiermonnikoog Declaration (2005) and the Trilateral Wadden Sea Plan (1997). Over the next few years, cooperation will mainly be geared towards coordinated and consistent implementation of EU Directives, with one aim being to clarify the situation from the point of view of inhabitants and stakeholders. To this end, the co-management scheme will be updated, subject to the requirements of the EU Directives, with a view to incorporating the cultural/historical and landscape aspects.

Nomination for World Heritage List
Following the agreements reached on the Wadden Sea island of Schiermonnikoog in 2005, preparations are being made, in close cooperation with the population and interest groups, for the possible nomination of the Wadden Sea for inclusion on the UNESCO World Heritage List. The nomination of the Wadden Sea as a World Heritage Site would not result in a more stringent protection regime.

Treaties and agreements of the International Maritime Organization (IMO) and the OSPAR (Oslo-Paris) Convention
The relationship that has been established with regard to water quality between the Wadden Sea Policy, the North Sea Policy and the Rhine and Ems Policies will be continued and, where possible, reinforced. The European Water Framework Directive provides the means to reinforce the link between the Wadden Sea and Rhine and Ems Policies. Under the Water Framework Directive, the Wadden Sea (with the exception of the adjacent harbours and a 500-metre zone around them) has been provisionally designated as a ‘natural water body’. Exceptions have been made for the salt marshes and summer polders. The harbours, including a 500-metre zone around the harbour mouth, have provisionally been given the status of ‘heavily modified water body’. The Ems-Dollard area (extending from the mouth of the river Ems in the Dollard up to and including Eemshaven) has been provisionally designated as ‘heavily modified’ (in partnership with Germany). Eemshaven and the Zeehavenkanaal form part of this heavily modified water body. What is significant is that Germany and Denmark have also assigned the Wadden Sea the provisional status of ‘natural water body’. As in the Netherlands, this does not apply to the harbours and the large estuaries of such rivers as the Weser, Elbe and Ems. The WFD measures for the sea will be incorporated in the treaties and agreements of the International Maritime Organization (IMO) and the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR). Measures for shipping are only meaningful if they are agreed at a global level.
As far as emissions reduction is concerned, the agreements are aimed at upstream measures.

**International cooperation**

International cooperation under the aegis of the European Union, the Ramsar Convention, the Conventions of Bonn and Bern and the World Heritage Convention will be continued. Where possible and desirable, the cooperation will be intensified.
2.

Key policy principles

2.1 Objectives for the Wadden Sea

The main objective for the Wadden Sea is the sustainable protection and development of the Wadden Sea as a nature reserve and the conservation of the unique open landscape.

In order to achieve this, the policy is geared towards sustainable protection and/or ensuring that the following elements develop in as natural a manner as possible:
- the water flows and associated geomorphological and pedological processes;
- the quality of water, soil and air. Water and soil quality should be such that contaminants have only a negligible effect on flora and fauna;
- the flora and fauna;
and it is also geared towards conservation of:
- the landscape qualities – and, in particular, the tranquillity, vastness, open horizon and ‘naturalness’ (including darkness).

Other features to be protected are the archaeological assets that are present in the soil and the area’s cultural/historical assets.

The safety of the Wadden Sea Region’s inhabitants is ensured by good sea defences. Access to the harbours and the islands is safeguarded.

The essential qualities of the Wadden Sea (natural resources, horizon and coherence) present opportunities for economic development. The perception of the natural and landscape qualities of the Wadden Sea by the region’s inhabitants and visitors has served as a further point of reference during subsequent policy development.

Plans, projects or other interventions are possible on the basis of this PKB, provided they are compatible with the main objective for the Wadden Sea and conform to the assessment framework established in this PKB.

2.2 Development perspective for the Wadden Sea

The Dutch Cabinet is seeking to adopt a proactive and development-oriented strategy with regard to the Wadden Sea. The development perspective outlines the key long-term policy elements advocated by the Dutch Cabinet for the development of the Wadden Sea in the period up to 2030. It reflects the desire to achieve sustainable development of the area, both from an ecological standpoint and in socio-economic, touristic and recreational terms. The perspective therefore aims to meet the needs of the present generation without jeopardising our ability to fulfil the needs of future generations.

Government policy with regard to the Wadden Sea is geared to realising the development perspective for the Wadden Sea in the long term, while keeping within the parameters specified in section 2.1.
The key elements of the development perspective are as follows:
- The Wadden Sea is primarily a nature reserve and a unique open landscape. Disturbance of the natural dynamics of the physical processes that occur in the Wadden Sea, on the Wadden Islands and in the North Sea Coastal Zone will be kept to a minimum so that new mudflats, channels, dunes and coastal areas can develop. Tranquillity, vastness, open horizon and naturalness (including darkness) have been safeguarded and are highly valued.
- The water quality is such as to allow optimal development of flora and fauna.
- The flora and fauna are rich, varied and present in the same quantities as before the period of eutrophication.
- The area of natural salt marshes has increased.
- Disturbance to the seabed is limited to such an extent that mussel banks and seagrass fields are able to develop naturally. The area of mussel banks (of natural density) and seagrass fields has increased.
- Sufficient food, breeding sites and resting places have been ensured (in a sustainable manner) for marine mammals, fish and birds (migratory and resident).
- The free migration of aquatic organisms between the Wadden Sea and fresh inland water is guaranteed. Fresh-salt water gradients are present at several locations. Landscape and recreational aspects have consistently been taken into consideration when establishing new gradients.
- In the most extensively used parts of the Wadden Sea (especially the eastern Wadden Sea), the tranquillity has been permanently safeguarded.
- As far as possible, the Wadden Sea will remain protected against threats. The potential consequences of threats to the natural assets of the Wadden Sea will be minimised.
- The cultural/historical assets (i.e. the archaeological assets present in the soil and seabed and the cultural/historical elements and structures characteristic of the Wadden Sea Region) have been effectively preserved.
- Flood management has been handled in a sustainable manner. The primary flood defences still meet the requirements of the Flood Defence Act.
- The airlink between the islands and the mainland has been guaranteed in order to ensure the safety and health of the islanders. The peace and tranquillity of the Wadden Sea will be safeguarded by the requirement that aircraft may only fly above a certain altitude.
- Access to the harbours in and adjoining the Wadden Sea has been safeguarded.
- The economic activity in and around the Wadden Sea provides the population with work and income and is of a sustainable nature.
- A form of tourism has been achieved which is ecologically sustainable, economically viable and socially acceptable. The Wadden Sea Region provides an ideal experience of nature and landscape.
- The Wadden Sea harbours have developed in a manner that is both sustainable and reflects their specific location and potential. As far as the harbours are concerned, this has been achieved by each harbour specialising in different activities.
- The Wadden Sea is used for various forms of fishing in such a way as to allow the development of rich and varied fish stocks and prevent adverse effects on the remaining fauna and flora (including those inhabiting the seabed) and the landscape qualities of the Wadden Sea.
- Pollution caused by military activities has been reduced on the Wadden Sea.
- The traditional interests of the local population in the Wadden Sea Region have been safeguarded by practising various forms of small-scale, sustainable, historical exploitation of natural resources. This has contributed to the positive perception of the area.

The Regional Coordination Board for the Wadden Sea Region (RCW) will flesh out the development perspective of this PKB in the proposed integrated Plan for the Management and Development of the Wadden Sea Region by drawing up a target scenario and a frame of reference for the Wadden Sea.

The Dutch Cabinet is underpinning the development perspective by drawing up a 20-year investment plan to facilitate additional investment in the Wadden Sea Region. In order to finance the investment, a separate Wadden Fund is being established under the management of the Minister of Housing, Spatial Planning and the Environment. The Wadden Fund will receive €800 million from the government, spread over a period of 20 years. Activities that are deemed to be normal government duties are not eligible for a grant from the Wadden Fund.

An implementation plan is being drawn up in conjunction with the regional authorities. The implementation plan will identify the investment priorities for the next five years and therefore guide the phased implementation of the development-oriented and proactive strategy. After the administrative costs and the compensation payments to the cockle-fishing sector have been deducted, the additional investment will be directed at habitat restoration and development, threat reduction, sustainable economic development and
improvement of knowledge infrastructure. The objective of sustainable economic
development is also fulfilled by activities that aim to achieve a substantial transition to
sustainable energy management in the Wadden Sea Region and the adjacent areas of
Friesland, Groningen and the North (Kop) of North Holland.
3. Policy choices

This chapter outlines the policy choices that the Dutch Cabinet considers important in order to realise the objectives for the Wadden Sea as indicated in section 2.1 and the long-term development perspective (as indicated in section 2.2). The policy choices have been broken down into measures directed at nature in a broad sense (including water, soil and air quality) and those directed at human activities. The latter measures consist of both existing and new human activities in the Wadden Sea Region and beyond (in so far as they have an impact on the Wadden Sea).

The main criterion applied in making the policy choices is that human activities have been permitted where they are compatible with the principal objective for the Wadden Sea.

The statements included in this chapter have undergone an appropriate assessment, in accordance with the Birds and Habitats Directives (as implemented in the 1998 Nature Conservancy Act since October 2005). This appropriate assessment was based on the provisional conservation objectives for the Wadden Sea (see Appendix 2), using knowledge of current policymaking and management practices. Current practices have also been a point of reference when assessing activities. The appropriate assessment has resulted in a number of adjustments being made to the PKB. Now that the results of the appropriate assessment have been incorporated, the PKB fulfils the conditions of the Habitats Directive and of the amended 1998 Nature Conservancy Act, which has been in force since October 2005. In addition to an appropriate assessment, ten statements included in this chapter have also undergone a strategic environmental assessment based on European Directive 2001/42/EC concerning “the assessment of the effects of certain plans and programmes on the environment”.

These assessments do not alter the fact that an appropriate re-assessment may be necessary once plans, projects and other interventions have been further fleshed out. Unless stated otherwise, the policy choices in this chapter relate to the PKB area.

3.1 Space for nature and landscape

The policy with regard to nature is aimed at ensuring that the ecosystem develops in as natural a manner as possible. A mobile coastline is possible at most extremities of the Wadden Islands. If natural processes are unable to restore the characteristic biodiversity in the medium-to-long term then selective intervention is possible. This intervention is then aimed at creating the right conditions to set in motion the natural processes that lead to characteristic biodiversity. For example, steps could be taken to restore fresh-salt water gradients or to conserve and develop the salt marsh areas by stimulating salt marsh formation and by de-embanking summer polders.

The EU Water Framework Directive and the Birds and Habitats Directives – as implemented in the Flora and Fauna Act and in the 1998 Nature Conservancy Act – serve as important assessment frameworks in connection with efforts to promote the natural development of the ecosystem. The Cabinet is endeavouring to restore natural fresh-salt water transitions, one of the aims being to bring about a single
natural fresh-salt water transition in the Wadden Sea Region for the Ems and Rhine river basin districts in addition to the existing natural fresh-salt water transitions. This can only be achieved if the plans also receive sufficient support from the regional agricultural and horticultural organisations.

In the first half of the PKB planning period, the Cabinet, mindful of climate change and rising sea-levels, will give further consideration to ways in which the maximum possible space can be given to natural processes. It will consult the relevant provinces, municipalities and district water boards about these measures.

Pollution of the Wadden Sea with contaminants and nutrients will be reduced in accordance with the national policy on water quality and North Sea Policy, with particular attention being focused on diffuse contaminants and national and international policy regarding air, soil and water. The long-term goal is to fulfil the targets for water and soil as set out in the Fourth National Policy Document on Water Management and to achieve ‘good status’ as defined in the Water Framework Directive. In the planning period for the Fourth National Policy Document on Water Management (up to 2006), efforts are being made to achieve the minimum quality level (i.e. the maximum acceptable risk level) for as many compounds as possible.

In consultation with the provinces and municipalities, the Dutch Cabinet is responsible for formulating an up-to-date and effective emergency plan to minimise the risk of pollutants finding their way into the Wadden Sea and the adjacent harbours, which will enable it to respond effectively to any disasters that might arise.

3.2 Space for human activities

a. Closed areas
In order to protect flora and fauna, parts of the Wadden Sea are closed for human activities for all or some of the year (see PKB map B). The areas concerned are updated annually pursuant to Section 20 of the 1998 Nature Conservancy Act. Exceptions can be made to this ban for activities that do not harm the protected flora and fauna.
Under trilateral agreements, an area has been created in the eastern part of the Wadden Sea within which exploitation of resources is prohibited. This serves as a reference area for scientific research (see PKB map B).

b. Land reclamation
No concessions will be awarded for land reclamation in the Wadden Sea or parts thereof.

c. Safety
In principle, human interventions aimed at safeguarding the inhabitants and users of the Wadden Sea Region are permitted.

d. Shipping
Water management activities, including the maintenance of shipping channels, are of limited extent, reflect natural morphological developments and only take place if access to the harbours or Wadden Islands or traffic safety is at stake.
Access to the harbours and islands is safeguarded by means of mooring facilities for ferries and target depths/standardisation for shipping channels. In both cases the 2006 target depths/standardisation (to be updated) apply. These state that vessels whose draught and dimensions allowed them to put in at the harbours at that time, given average sea level and wind conditions, must also be able to do so in the future. Economic and technical developments in the shipping sector are taken into account. Further periodic measures to deepen the main shipping channels are possible, in line with natural developments in the channel depth, providing this is compatible with the assessment framework established in the PKB.

In view of the economic potential of the harbours at Den Helder, Harlingen, Delfzijl and Eemshaven, it is possible that the shipping channels between these harbours and the North Sea may be further deepened, notwithstanding the stipulated target depths/standards, providing this is compatible with the assessment framework established in this PKB. In particular, the Harlingen-North Sea shipping channel will be deepened to at least 7.5 metres below Dutch Ordnance Level (NAP).

A maximum speed limit of 20 kilometres per hour applies for all motor vessels in the Wadden Sea, except in a number of buoied shipping channels and the existing high-speed zone near Oudeschild for genuine rescue, recovery, search and patrol operations, and also for associated rescue and military exercises. Further navigation restrictions may be introduced for parts of the Wadden Sea that are in particular need of conservation on account of their scientific assets.

The government will be responsible for buoying and beaconing the shipping routes in the Wadden Sea. The buoied shipping channels, the high-speed routes and the high-speed zone near Oudeschild are shown on PKB map B.

The use of hovercraft is not permitted in the Wadden Sea.

e. Civil aviation

Civil aircraft must observe a minimum altitude of 450 metres over the Wadden Sea. A minimum altitude of 450 metres will likewise be introduced for civil aircraft over the remainder of the Wadden Sea Region, except for the terrestrial areas of the mainland municipalities.
Exceptions are only possible in specifically defined circumstances. Only if the cloudbase or poor visibility prevents flying above 450 metres will a minimum altitude of 300 metres (1000 feet) – or as far above this height as possible – be observed in the corridors. See explanatory map 14. **No aerial advertising flights may be conducted over the Wadden Sea and the remainder of the Wadden Sea Region (except for the terrestrial areas of the mainland municipalities), with the exception of flights from Texel airfield directly to the mainland and vice versa.**

**No new airfields may be constructed in the Wadden Sea and the remainder of the Wadden Sea Region.** Expansion of existing airfields in the Wadden Sea Region (except for the terrestrial areas of the mainland municipalities) will only take place in the interests of aviation safety and provided it is compatible with the assessment framework established in this PKB.

**f. Offshore installations**

No drilling rigs or other offshore installations may be sited in the Wadden Sea. The Cabinet will make an exception for the existing temporary site in the ‘Gat van de Stier’ channel between Den Helder and Texel. Pending the completion of maintenance and repair works in Den Helder harbour, a maximum of two offshore installations may be sited at this location for no more than three months per year. In emergencies only, three offshore installations may be temporarily sited here and the time limit may be extended, once only, and by no more than three months. **This temporary facility will be completed within three years, starting from the entry into force of this PKB. The Cabinet will provide an alternative location outside the Wadden Sea for the siting of drilling rigs and other offshore installations.**

**g. Cables and pipelines**

The laying of cables and pipelines through the Wadden Sea should be assessed on a case-to-case basis. As a rule of thumb, these should link up with existing cable and pipeline routes, which are shown in explanatory map 15.

**h. Harbours and industrial sites**

**No new harbours and industrial sites may be constructed in or directly adjoining the Wadden Sea.** Existing harbours and industrial sites directly adjoining the Wadden Sea (except for Den Helder) must not be extended seawards. **A seawards extension is possible in Den Helder in the event that the TESO ferry harbour is relocated, providing a careful planning assessment is conducted. An exception will also be made for limited extensions to those Wadden Island harbours that are intended for leisure craft, if these should be necessary for safety or certain other reasons and no appropriate alternative solution is available. The agreement referred to in 3.2 o of this PKB is determinative in cases of this kind. Any exceptions must be compatible with the assessment framework that is outlined in this PKB.**

As far as a possible new extension to the harbour at Harlingen is concerned, preference will be given to a landwards extension. However, if a specific plan that is underpinned with research should give rise to the view that a seawards extension is feasible at Harlingen within the parameters of the assessment...
framework established in the PKB, the Cabinet will make this possible by undertaking a partial revision. The planning assessment will have to be conducted on the basis of the above-mentioned research, taking account of the landscape and cultural/historical and natural assets of both the Wadden Sea and the area lying inside the dike.

Aside from the exceptions referred to above, extension of harbours and industrial sites is only permitted to the landward side. Seawards construction or modification of breakwaters and ferry causeways is not normally allowed, unless it is required for reasons of safety or accessibility – in which case it must be compatible with the assessment framework established in this PKB. Explanatory map 16 shows the harbours and the larger industrial sites directly adjoining the Wadden Sea. PKB map B shows the marinas.

Development opportunities may be exploited on industrial sites in the vicinity of the Wadden Sea on the condition that national environmental-health standards are fulfilled and that high-risk enterprises and/or substances are permitted provided it is shown that no irreparable damage can be inflicted on the Wadden Sea in the event of disasters.

i. Building works

*No buildings may be erected or sited in the Wadden Sea, except for:*

- temporary buildings erected for the purposes of scientific research and monitoring;
- structures necessary to the safety of the shipping in the Wadden Sea;
- structures providing alternative seed mussel sources;
- structures providing effective drainage of the mainland;
- observation posts; and
- the exceptions to the ban on seawards harbour extensions (see 3.2h of this PKB).

New building works may only take place in the vicinity of the Wadden Sea within the parameters of national spatial planning policy. Their height should be in keeping with the existing buildings and buildings in the outlying area should blend in with the character of the surrounding landscape. An exception to the height stipulation will be made for the harbour-related and urban buildings in Den Helder, Harlingen, Delfzijl and Eemshaven. Even in the case of these exceptions, new buildings must, as far as possible, be blended into the existing skyline. Furthermore, structures for the exploration and extraction of gas from beneath the Wadden Sea are subject to the conditions listed in section k (“Deep-lying minerals”).

“Building works” is understood to mean all buildings and structures with the exception of wind turbines.

The Cabinet will endeavour to prevent loss of night-time darkness due to large-scale light pollution (e.g. from greenhouse complexes).

j. Dredging spoil

*Only dredging spoil originating from the Wadden Sea and the directly adjacent harbours may be deposited in the Wadden Sea. This dredging spoil should comply with the current quality standard according to national water management policy.*
The dumping of dredging spoil in the Wadden Sea is subject to guidelines aimed at minimising impact on the ecosystem and other human activities. The government will ensure that the dumping sites are ideally located from an ecological standpoint.

**k. Deep-lying minerals**

New exploration and extraction of deep-lying minerals is not permitted at locations in the Wadden Sea.

New exploration and extraction of gas from beneath the Wadden Sea can take place subject to the following conditions:
- New exploration and extraction of gas is only permitted from terrestrial locations and from existing platforms in the North Sea (coastal zone).
- Providing there is no reasonable scientific doubt as to the absence of adverse effects on the natural assets and features described in this PKB.
- An independent body advises the competent authority on the planning, execution and policy implications of proper monitoring of all relevant effects and developments, so that the competent authority can, if necessary, intervene in accordance with the ‘hand on the tap’ principle.
- The requisite buildings (including the temporary siting of drilling installations) will be blended into the landscape as carefully as possible and using the best available technology in order to protect its unique openness.
- In view of this careful integration into the landscape, the temporary use of exploration, maintenance and extraction installations is not considered to be detrimental to open horizons and darkness.

The above provisos will be further elaborated in extraction and measurement plans, as stipulated in the Dutch Mining Act and in permits issued under the 1998 Nature Conservancy Act.

Explanatory map 17 shows the areas where permits are required and the existing locations for the extraction of gas from beneath the Wadden Sea.

The Cabinet will not be issuing any new permits for exploration and extraction of other deep-lying minerals from beneath the Wadden Sea (i.e. deep-lying minerals other than gas) until such time as it has been scientifically established beyond reasonable doubt that such activities do not adversely affect the natural and landscape assets of the Wadden Sea.

It is prohibited to discharge any waste materials (including drilling spoil) into the Wadden Sea.

**l. Wind turbines**

*The siting of wind turbines in the Wadden Sea is prohibited.* The acceptability of siting wind turbines in the vicinity of the PKB area will be assessed on a case-by-case basis by applying the criteria that are specified in the national spatial planning policy and in the assessment framework for this PKB.

**m. Excavation**

The extraction of sand from the Wadden Sea is confined to the sand released during the regular maintenance of shipping channels and during periodic further deepening of parts of the main shipping channels and sand released during excavations for building works specified as an exception in section 3.2 i.
The harvesting of shellfish in the Wadden Sea is regulated by means of a quota system and zoning. See explanatory map 18. The volume of shellfish harvested annually in the Wadden Sea and the outer deltas of the adjacent North Sea Coastal Zone must not exceed the long-term average natural shellfish production, with a maximum of 90,000 m³ per year being caught in the PKB area. Shellfish harvesting is only permitted below NAP (Dutch Ordnance Level) minus 5 metres.

n. Archaeology
Surveying and recovery of archaeologically valuable shipwrecks and submerged and silted-over settlements in the Wadden Sea may be permitted (subject to certain provisos) if these come to the surface of the seabed through the action of natural physical processes. Investigation of archaeological assets that does not disturb the seabed and does not otherwise damage the assets and features of the Wadden Sea that are to be protected and conserved is permitted subject to certain provisos. Human activities in the Wadden Sea must not result in damage to archaeological assets that are present in the seabed. Explanatory map 19 shows known locations of shipwrecks.

o. Recreation
Government policy with regard to recreation on the Wadden Sea is aimed at securing and maintaining control over recreational exploitation and developing sustainable forms of recreation, taking as its basic premise the natural resilience of the area. Recreational exploitation is governed by a zoning system which spares the areas that are susceptible to disturbance. A map with a broadly considered recreational zoning system is included in the appendix to this PKB (PKB map B).

*No new marinas may be constructed in or directly adjoining the Wadden Sea.*

At the initiative of the Wadden Provinces, an agreement is being drawn up between the government, the Wadden Provinces and the Wadden Municipalities. This includes an integrated policy aimed at securing and maintaining control over recreation and tourism on the Wadden Sea. If the agreement has not yet come into force by 31 December 2007 and it still proves necessary to adopt a capacity-related policy for marinas, the Cabinet will partially revise this section of the PKB.

The Wadden Sea must not be used for waterskiing, jetskiing and similar motorised activities, apart from the existing high-speed zone near Oudeschild. The existing high-speed zone near Den Helder is being closed.

The Wadden Provinces are requested to flesh out the recreational policy for the Wadden Sea in the light of this PKB.

p. Fishery

**Mussel fishery**
Mussel farming will be enabled to implement several innovative plans on an experimental scale, and under the supervision of researchers, that will assist in the harvesting of seed mussels from alternative sources, or harvesting using alternative methods.

These include plans involving the harvesting of seed mussels from anchored nets, ropes and poles. If research shows that this form of seed harvesting offers ecological and
economic benefits compared with traditional seed mussel fishery then it will be possible
to scale up to commercial application. During this process, consideration should be given
to other human activities (such as shipping, recreation and other fishing) and to the
conservation of the unique landscape.

The designation of temporary experimental areas for the sowing of seed mussels
(maximum area: 500 ha) has been authorised with a view to optimising mussel beds.
The total size of the cultivation beds will be maintained and will not be further increased
(see explanatory map 20).

Seed mussel fishery must only take place in the spring and autumn, based on a
monitored fishing plan. The seed mussel fishery that takes place in the sublittoral zone in
the autumn now focuses only on the unstable stocks. The spring fishery in the sublittoral
zone is confined to the open areas.

The mussel sector should clearly demonstrate that its activities result in mussel
stocks that are at least equal in size to the mussel numbers that might have been
present in a natural situation.

To accomplish this, the mussel sector will have to demonstrate that at least 85% of the
total seed mussel harvest from the spring fishery is still present in the Wadden Sea the
following winter, after deducting the amount harvested in the autumn preceding the
spring fishery. If more than 2000 hectares of long-term mussel banks are present and
there is no reasonable scientific doubt as to the absence of adverse effects on the
natural assets and features described in this PKB, then fishing of unstable mussel seed
banks on the mudflats will be permitted subject to certain provisos.

Exceptions may be made to the above stipulations for fishing of mussel and mussel-
seed banks in connection with research into the hypothesis that controlled fishing
increases the stability of the mussel bank.

Cockle fishing

Mechanical cockle fishing in the Wadden Sea has been prohibited since 1 January
2005. Non-mechanical cockle fishing is still allowed. An increase in the number of
permits for non-mechanical cockle fishing is under consideration. Non-mechanical cockle
fishery must account for no more than 5% of the annual Wadden Sea cockle stocks.

Shellfish fishing in general

Manual collection of shellfish for personal use is permitted, subject to a maximum catch
of 10 kg per person per day.

A small-scale experiment is being started with the commercial collection of Japanese
oysters. The commercial collection of mussels is prohibited.

Initiatives seeking to cultivate shellfish species other than mussels, and also innovative
experiments including the cultivation of shellfish on the landward side of the dikes, will be
assessed for compatibility with the existing frameworks.

Closing areas to certain forms of fishing

Twenty-six per cent of the littoral zone in the Wadden Sea is permanently closed
to bottom-contacting fishing methods (seed mussel fishery, cockle fishing and
fishing using bottom-contacting fishing gear with tickler chains). See explanatory
map 20.

Shrimp fishery is not permitted on the tidal flats (the littoral zone) in the areas that
have been closed to bottom-contacting fishing methods. Fishing with other types
of trawl net (with or without tickler chains) is not permitted on the tidal flats (the littoral zone) anywhere in the PKB area. This may be considered if a clear benefit can be achieved for nature and for the shellfish sector by adjusting boundaries or exchanging closed areas with open areas. Some areas of the sublittoral zone may be closed to bottom-contacting fishing methods and shrimp fishery for the purposes of long-term research.

**Fishing is prohibited in sea-grass fields and within a radius of at least 40 metres around them. Fishing is also prohibited in stable littoral mussel banks and within a radius of 40 metres around them. Exceptions to this ban may be made for the fishing of mussel banks (and mussel seed banks) in order to investigate the hypothesis that controlled fishing improves the stability of the mussel bank. If the research shows that this form of fishing does not adversely affect the stability of the mussel banks and other ecosystem assets then further consideration will be given to the conditions and locations in which this form of fishing can be permitted.**
Trawling
So long as there is no evidence that trawling (with or without tickler chains) in the sublittoral zone has significant ecological effects on the sublittoral system, this form of fishing will continue to be allowed. However, there will be no further increase in the number of permits. Anyone who has already reserved a permit for more than one year without possessing a vessel that is suitable for trawling will have their reservation cancelled, together with their entitlement to a permit.

Fixed fishing gear
Fishing with fixed fishing gear will be regulated through the introduction of controlled fishing areas (visvakken) or via the standard permit requirements. There are no plans to declare new controlled fishing areas in the Wadden Sea. Fishing on the tidal flats with bottom-set gillnets will be curbed in order to further reduce the numbers of birds drowned in these nets, unless this fishing can be carried out in a way that minimises the drowning of birds and by-catch of marine mammals in these nets. Elsewhere in the Wadden Sea, studies will be conducted on ecological compatibility.

q. Military activities
The Cabinet does not believe that it is realistic to substantially reduce military activities in the Wadden Sea Region or to stop them altogether. The existing activities are considered to be of such importance to society that they will be continued at the existing locations during the planning period and steps must be taken to ensure that they can be carried out efficiently. In the event that the Cabinet should, for some reason, no longer consider the activities to be necessary, they will be halted.

In order to reduce environmental pollution in the Wadden Sea, the Cabinet has decided to make the following changes to existing military activities:
- The section over the Wadden Sea has been removed from the low-flying route for fighter aircraft.
- The minimum altitude for military aircraft over the Wadden Sea has been raised from 300 metres to 450 metres. Flights with military helicopters and the various approaches to the Vliehors shooting range are exempted from this measure.
- Whenever possible, planes will approach the Vliehors shooting range from the North Sea instead of flying over the Wadden Sea.
- The tank training camp on Vlieland has been taken out of service.

Explanatory map 21 shows the military activities in the Wadden Sea Region.

r. Lugworm extraction
The number of permits issued for the mechanical extraction of lugworms must not be increased. The permits for this activity will only be issued to current permit-holders and are not transferable. Explanatory map 22 shows the designated areas for mechanical lugworm extraction.
4.

Assessment framework

4.1 Assets and features designated for protection and conservation
The assets and features that have been designated for protection and conservation under this PKB are a direct corollary of its principal objective. Some are assets and features that the Netherlands is required to protect and conserve under the Birds and Habitats Directives, the 1998 Nature Conservancy Act and the Flora and Fauna Act, while others are the assets and features that the Cabinet considers to be of such great importance that they too are worthy of continued protection and conservation.

Pending the establishment of a definitive conservation objective, a provisional goal has been formulated as a general qualitative conservation objective, based on the Birds and Habitats Directives. This has been included in Appendix 2. More specifically, this conservation objective, which has been broadly formulated using qualitative terms, relates to the maintenance of the favourable conservation status of the qualifying habitats and species, which are also listed in Appendix 2.

Decisions are made on concrete projects and activities after the decisions on designated areas have been formulated or supplemented pursuant to Section 10a of the 1998 Nature Conservancy Act. The assessment of these projects and activities must be based on the definitive conservation objectives.

For the purposes of this PKB, assets and features designated for protection and conservation are understood to mean:
- water flows and the associated geomorphological and pedological processes;
- natural bed relief;
- quality of water, soil and air;
- biological processes, including migration possibilities for animals;
- area-specific plant and animal species;
- foraging, breeding and resting areas for birds; whelping, resting and nursing areas for marine mammals; and nurseries for fish;
- landscape qualities, notably tranquillity, vastness, open horizon and naturalness (including darkness);
- the presence of archaeological assets in the soil and cultural/historical assets in the area.

4.2 Assessment framework
Plans, projects and other interventions are possible provided they are compatible with the policy frameworks and objectives that have been formulated for the Wadden Sea, as established in this PKB.

The competent authority must take into account all assets and features specified in section 4.1 when assessing plans, projects and other interventions (providing this is not incompatible with statutory regulations).
This assessment framework does not remove the need to comply with other statutory requirements.

Natural assets
Plans, projects and other interventions should be subjected to the assessment frameworks of the European Birds and Habitats Directives, which were nationally implemented in the 1998 Nature Conservancy Act and the Flora and Fauna Act.

The protection of the natural assets and features of the Wadden Sea is subject to the assessment framework laid down in the 1998 Nature Conservancy Act. A central element of this Act is the so-called habitat test. According to this test, an appropriate assessment must be conducted for plans, projects or other interventions if, on the basis of objective data, these could conceivably have significant implications for the Wadden Sea (either separately or in combination with other activities). The appropriate assessment describes the effects of the proposed plans, projects and other interventions on the conservation objectives for the protected habitats and species within the Wadden Sea area (as designated in Natura 2000). If, based on the results of the appropriate assessment, there is no reasonable scientific doubt that the natural features of the Wadden Sea, as defined in the 1998 Nature Conservancy Act, will not be adversely affected, then consent may be granted for the activity. If this is not the case, consent can only be granted in the absence of alternative solutions, based on arguments relating to human health, public safety or extremely favourable environmental effects. Other imperative reasons of overriding public interest (including those of a social and economic nature) can also be cited, but then advice is first required from the European Commission. If a plan, project or other intervention is permitted in principle after the importance for nature conservation and imperative reasons of overriding public interest have been considered, then any compensatory measures necessary to protect the overall coherence of Natura 2000 must be secured.

In the interests of species protection, the assessment framework laid down in the Flora and Fauna Act is also applicable. This Act implemented the species protection component of the Birds and Habitats Directives. By means of the prohibitory provisions in Sections 8–18, the Act affords protection to the designated protected plant and animal species, the habitats of protected plants, and the nests, other breeding sites and resting and denning sites of protected animals. Section 75 of the Flora and Fauna Act is of particular relevance to plans or projects that relate to threatened plant or animal species. Under certain circumstances, such initiatives may be granted exemption or release from the general prohibitory provisions of the Act, providing the favourable conservation status of the species concerned is not in doubt.

Landscape assets
The competent authority will have to conduct the same assessment with regard to the landscape qualities specified in section 4.1 as for the natural assets, providing this is not incompatible with statutory regulations.

Archaeological assets
Archaeological assets present in the soil are subject to the protection regime laid down in the Monuments and Historic Buildings Act.

Water quality
Water quality is also subject to the assessment framework laid down in the Water Framework Directive. The aim of the Water Framework Directive is to secure and maintain the good status of European waters, based on coordination of water management at river basin-district level. The river-basin-district management plan is an important instrument. The Dutch part of the Wadden Sea is part of the river basin districts of the Ems and Rhine.

The Water Framework Directive aims to achieve a good ecological and chemical status in the Wadden Sea by 2015. The term ‘good status’ will be further fleshed out with concrete goals for different aspects.

The acceptability of plans, projects or other interventions should be assessed by the various competent authorities in a consistent fashion. Provinces and municipalities in the Wadden Sea Region should therefore conduct the appraisal in the manner specified in this section. Furthermore, they should ensure that this is reflected in their regional and land-use plans in so far as these relate to the Wadden Sea. If more agencies are involved in the decision-making process as competent authorities, the Cabinet believes it would be desirable to coordinate decision-making and harmonise procedures.
5. Impact and evaluation of the Wadden Sea Policy

5.1 Impact of the policy
The Cabinet will ensure that the policy statements made in this PKB are fulfilled. Provinces and municipalities should take these policy statements into consideration when revising their spatial plans. Policy statements that have been designated as concrete policy decisions must be directly reflected in these plans.

An integrated Plan for the Management and Development of the Wadden Sea Region (the "B&O plan") will be drawn up in order to implement the PKB policy in a coordinated and coherent fashion. If possible, the government intends to incorporate the Wadden Sea-related management plans that are produced under the 1998 Nature Conservancy Act and the Water Framework Directive into this B&O plan. The B&O plan will be revised at least once every six years. Periodically, a Programme of Measures for the Wadden Sea will be drawn up, based on the B&O plan, in which the authorities outline the measures and actions that they propose to take over the next six years. In addition, a Report on the Programme of Measures for the Wadden Sea will be published at regular intervals, reporting on the implementation of the programme of measures. Finally, a Wadden Sea Enforcement Programme will be produced, specifying the way in which the policy is to be enforced. These plans will be assessed by the parties represented in the Regional Coordination Board for the Wadden Sea Region (RCW).

Responsibility for the implementation of the B&O plan, the programme of measures and the enforcement programme rests with the relevant competent authority. The Cabinet believes that proper enforcement of the policy set out in this PKB by the competent authorities is an essential prerequisite for the success of the Wadden Sea Policy. The RCW will be responsible for coordinating enforcement of the programmes. Inhabitants and interest groups will be expressly involved in the implementation of the policy.

Due weight must be given to the mitigation measures specified in the appropriate assessment and strategic environmental assessment of this PKB when issuing permits. Furthermore, the results of the appropriate assessment and strategic environmental assessment must be taken into consideration when the programme of measures for the above-mentioned B&O plan is established.

The Cabinet regards public information and education as important prerequisites to the realisation of the Wadden Sea Policy. In the Wadden Sea Region, public information is primarily aimed at broadening public support for the policy and providing clarification. As far as education is concerned, the government plays a facilitating role. Government agencies make the maximum possible use of the nature-conservation and environmental organisations and visitor centres when communicating policy and public information. The government does not, however, have any formal input into the running of nature-conservation and environmental organisations or visitor centres.
In the first half of the planning period for this PKB, the government will consider the possibility of adopting a "one-stop" approach to the granting of consent or permits in consultation with the Wadden authorities.

Pursuant to Section 15a of the 1998 Nature Conservancy Act (and in the light of the Birds Directive values) the conservation objectives for the Wadden Sea special protection area (as designated in the Birds Directive) are partly aimed at conserving, restoring and developing the scientific value and natural beauty of the Wadden Sea, as previously laid down in the decree designating the Wadden Sea as a protected natural monument (staatsnatuurmonument). In the 1998 Nature Conservancy Act, the Wadden Sea was designated as a special protection area under the Birds Directive and as a special area of conservation under the Habitats Directive.

5.2 External effect
Realisation of the objectives that have been formulated for the Wadden Sea is partly dependent upon the extent to which nature and other functions are allowed to develop outside the PKB area – especially in view of the complex web of ecological relationships. The Cabinet will adopt a proactive policy in this regard and urges the other authorities to follow its example.

Any plans, projects or other interventions outside the PKB area which, based on objective data, might conceivably have significant repercussions (either separately or in combination with other such initiatives) for the assets and features of the Wadden Sea that are to be protected and conserved under this PKB should be reviewed for compatibility with the main objective of this PKB.

This review is to be conducted using the assessment framework outlined in chapter 4.

This PKB is an important point of reference when formulating policy for water systems connected to the Wadden Sea (e.g. the North Sea and the Rhine and Ems river basin district).

This external effect will mainly be of relevance to new plans and additions or modifications to existing plans, projects or other interventions in the part of the Wadden Sea Region that is situated outside the PKB area. These may include the following plans, projects or other interventions:
- activities in the Wadden Sea that give rise to noise pollution as a result of proposed commercial development, defence activities, hunting or other activities;
- laying of cables and pipelines in the vicinity of the PKB area;
- dredge-spoil dump site in the vicinity of the PKB area;
- proposed commercial development in the vicinity of the PKB area which poses a threat to water quality in the Wadden Sea;
- impairment of the characteristic open horizon as a result of the proposed installation of wind turbines and high, permanent structures in the vicinity of the Wadden Sea;
- construction of harbours and marinas in the vicinity of the PKB area;
- fishing activities in the waters directly adjoining the PKB area;
- extraction of minerals (deep and surface) in the vicinity of the Wadden Sea;
- building works in the North Sea that affect the Wadden Sea;
- activities in the Wadden Sea that cause light pollution (e.g. large-scale greenhouse complexes in the vicinity of the Wadden Sea).
In view of the possible effects on the Wadden Sea, policy statements have also been made in chapter 3 of this PKB that relate to areas beyond the boundaries of the PKB area, since they have a bearing on the realisation of the main objective for the Wadden Sea. Thus the external effect has already been operationalised for a number of plans, projects or other interventions.

5.3 Knowledge, ‘nature boundaries’, monitoring and evaluation

**Knowledge management**

Government policy with regard to knowledge concerning the Wadden Sea and the Wadden Sea Region is aimed at the effective management of knowledge concerning the natural and man-made landscapes and socio-economic development in the Wadden Sea and the Wadden Sea Region.

The Cabinet believes that there is a need for research in several fields and that integrated planning and prioritisation are extremely important. Cooperation between the research facilities concerned needs to be optimised and the responsibility for this task lies primarily with the various research institutes.

However, the Cabinet also believes that there is a proactive and coordinating role here for an independent “Wadden Academy”, which should lead to improvements in:
- the articulation of research questions;
- the coordination of research planning;
- communication of knowledge and research findings.

The Cabinet envisages a future Wadden Academy as a small, efficient organisation which, wherever possible, will utilise existing infrastructure and links with centres of expertise and channels of communication when carrying out its coordinating activities. As far as knowledge management is concerned, existing responsibilities (financial and others) will remain unchanged. Government research funding will continue to flow through the existing channels and implementation will remain in the hands of the research facilities. The Wadden Academy will be set up within the framework of the Wadden Fund.

**Nature and landscape boundaries**

After consulting experts, the Cabinet concludes that a system of strict, predefined ‘nature boundaries’ (natuurgrensen) for all economic developments is not feasible in the short term – and, by the same token, nor are ‘landscape boundaries’. Although the Cabinet is still interested in this approach, it does not anticipate using it during the planning period. The current system – whereby the Wadden Sea PKB sets general parameters for human exploitation of the Wadden Sea (and beyond, based on the external effect), supplemented by a case-by-case assessment at the time permits are issued – will be continued during the planning period. This system requires:
- effective monitoring of the Birds & Habitats Directive parameters and of human activities;
- introduction of “hand on the tap” principles, together with timely feedback mechanisms, so that an activity can be halted or restricted if necessary;
- and, finally, steps to ensure that gaps in knowledge are filled.

A more detailed investigation will be conducted to establish what additional research is required and to explore the legal feasibility of these nature and landscape boundaries. It
will therefore be possible to make a definitive judgement about the feasibility of this new system halfway through the planning period.

The Verbetering kennishuishouding Waddenzee [Wadden Sea Knowledge Management Improvement] project, which was conducted by the National Institute for Coastal and Marine Management (RIKZ) and the National Reference Centre for Agriculture, Nature and Food Quality (EC-LNV) in 2004, highlights the principal gaps in our knowledge, which are:
- the long-term development of the Wadden Sea in the light of anticipated climatic changes;
- a number of morphological and ecological processes are still not fully understood (and likewise the interaction between morphology and ecology);
- the relationship between decreasing eutrophication and the resilience of the system;
- insufficient knowledge about dose-effect relationships;
- knowledge of socio-economic and sociocultural factors is insufficient to allow for a social cost-benefit analysis (SCBA).

**Monitoring**

As far as monitoring is concerned, it is important to draw a distinction between general monitoring (aimed at assessing the overall status of the Wadden Sea) and specific monitoring, which aims to detect the effects of specific activities.

Monitoring must, in any case, be conducted in accordance with predefined and verifiable procedures, using data that are clear, unambiguous and properly interpreted.

As far as general monitoring is concerned, the Cabinet does not believe that any organisational changes are required, but feels that improvements are needed with regard to the interrelatedness of the monitoring programmes for the different activities (both at the national and international level).

The objectives will be further operationalised into measurable and verifiable indicators in the course of the planning period.

Plans, projects or other interventions of a scientific-research and monitoring nature that set out to ensure the effective management of the Wadden Sea ecosystem are, in principle, permitted. The trilateral monitoring and assessment programme will be implemented. Under the existing trilateral monitoring arrangement, a Quality Status Report (QSR) is produced once every four years. The underlying data are available for the purposes of identifying trends, together with the other national monitoring data. It has been agreed at trilateral level to optimise the ‘Trilateral Monitoring and Assessment Programme’ on the basis of an evaluation conducted in 2004. This optimisation process is aimed, in part, at bringing the programme into line with the Birds and Habitats Directives and the Water Framework Directive.

As far as specific monitoring is concerned, the Cabinet believes that a separate and independent monitoring committee would be desirable for extensive, politically sensitive activities (such as gas extraction), unless a system of predefined ‘nature and landscape boundaries’ is available. The Cabinet will decide on a case-by-case basis whether specific monitoring is required. This independent committee will not interfere with the responsibilities of the competent authority. The competent authority is responsible for imposing specific requirements with regard to monitoring, supervising monitoring activities and deciding, based on the results of the monitoring activities, whether – or to what extent – a given activity can be continued. The task of the independent committee is to conduct audits and advise the competent authority at crucial moments in the
process (i.e. when the monitoring requirements are formulated and when the results are released).

When specific monitoring activities are carried out, particular attention must be paid to continuity, cumulative effects and developments in adjacent areas. Despite the conclusion reached in the appropriate assessment that this PKB was unlikely to have any significant effects, it has been ascertained, based on the relevant impact matrices, that certain species – namely birds and seals – are, in fact, affected in various ways. These effects may be local or supra-local and they are usually of a temporary or periodic nature. Continuous effects are rare. After seals and birds, the habitat types most affected are ‘permanently submerged sandbanks’, ‘intertidal estuarine mudflats and sand flats’ and ‘estuaries’. These too are, for the most part, local and supra-local effects of a temporary or periodic nature. The sensitivity of these species and habitats will need to be taken into account when monitoring the Wadden Sea.

Strategic environmental assessment has shown that there is no system for monitoring noise and light, notwithstanding the assertions made in the PKB with regard to tranquillity and darkness. These aspects will therefore also have to be taken into consideration when further improvements are made to the monitoring of the Wadden Sea.

**Evaluation**

Before the end of the planning period, the Cabinet will indicate whether or not the PKB is to be revised, retained or withdrawn. If it is revised (either completely or in part), the Cabinet will indicate which elements of the policy need to be adjusted and in what respect. Before this takes place, the policy will be evaluated. Among the factors to be taken into account during this evaluation will be the results of the studies announced in this PKB.
6. Administrative organisation

The Cabinet regards effective coordination of policy-making and implementation as essential to the success of the Wadden Sea Policy.

The coordination of key strategic elements of the Wadden Sea Policy takes place within the Coordination Board for the Wadden Sea Region (CCW), whereas these key strategic policy elements are formulated by the Regional Coordination Board for the Wadden Sea Region (RCW). Both of these bodies include representatives of government, the Wadden Provinces, the coastal municipalities, the Wadden Islands and the district water boards. This organisational structure does not encroach upon the responsibilities of the individual parties.

The authorities concerned will define the role, position and working methods of both bodies, either in the form of a protocol or new terms of reference.

The CCW is chaired by the Minister of Housing, Spatial Planning and the Environment, whose portfolio includes responsibility for the Wadden Sea Policy. The CCW will meet once or twice a year. The CCW is the consultative body with responsibility for:
- revision of the Wadden Sea PKB;
- the closing stages of preparations for international and trilateral activities;
- matters that are not resolved within the RCW;
- the awarding of contracts and adoption of the Plan for the Management and Development of the Wadden Sea Region (B&O plan), including discussion of the Programme of Measures for the Wadden Sea Region.

The RCW is chaired by a Queen's Commissioner from one of the Wadden Provinces. The RCW performs various roles in its capacity as the linchpin in the implementation of the Wadden Sea Policy:
- drafting and implementation of the B&O plan;
- a coordinating role (e.g. in relation to enforcement);
- a forum for all matters relating to the Wadden Sea.

Specific problems relating to the Wadden Sea Policy are assigned to individual members of the RCW known as *regisseurs* (rapporteurs), according to their subject matter. In seeking solutions to these problems, the RCW should operate as a collective entity. The Board is supported by a small but highly qualified secretariat.

Being the principal activity on the agenda for the Wadden Sea, nature conservation will enjoy a pre-eminent status within the RCW and hence also within the proposed Wadden Sea Management Board (*Beheerraad*). Membership of the *Beheerraad* will consist of land-management organisations, including government departments such as the Ministry of Transport, Public Works & Water Management and the Department of Waterways & Public Works. The principal tasks of the Management Board will be to improve coordination between the respective land managers and thereby boost their collective efficiency. Its goal will be to harmonise land management activities throughout the Wadden Sea Region.
As the implementing instrument of the PKB, the B&O plan will play a crucial role in the Wadden Sea Policy. The CCW will instruct the RCW to draw up the B&O plan, which it will subsequently adopt, thereby giving shape to the link between the Cabinet and the B&O plan. The modular design of the B&O plan enables it to remain flexible and to anticipate new developments and decisions.
Annex 17

Act for amendment of the Act on the National Park "Wadden Sea of Lower Saxony" of 11 July 2001. (Law Gazette of Lower Saxony (Nds. GVBl.) p. 443 – VORIS 28100 05, 28100 01, 28100 03)
Act
For amendment of the Act on the National Park "Wadden Sea of Lower Saxony"

Of 11 July 2001

(Law Gazette of Lower Saxony (Nds. GVBl.) p. 443 – VORIS 28100 05, 28100 01, 28100 03 –)
The State Parliament (Landtag) of Lower Saxony has approved the following Act:

Article 1
Act on the "Wadden Sea of Lower Saxony" National Park

Section 1
Placement under protection
The "Wadden Sea of Lower Saxony" National Park, whose extent and boundaries are specified in the present Act, is located in the Wadden Sea between the Elbe River and Ems River estuaries.

Section 2
Protection purpose
(1) The national park has the purpose of preserving and protecting the Wadden Sea's unique natural assets and landscape, including the characteristic appearance of its landscape, in the Wadden Sea region off Lower Saxony's coast. The natural processes in these habitats are to remain in force. The diversity of the plant and animal species in the territory of the national park is to be conserved. For biotopes within the meaning of Article 20 c of the Federal Nature Conservation Act, the national park shall provide the necessary protection under the Federal Nature Conservation Act. The special protection purposes of the various areas within the core zone are listed in Annex 1.

(2) The areas of the national park declared, in Sentence 2, to be a European Special Protection Area, for implementation of Council Directive 79/409/EEC of 2 April 1979 on the Conservation of Wild Birds (OJ EC L 103 p. 1), in the applicable valid version, shall also serve the purpose of assuring the survival and increase of the bird species that occur in them and that are listed in Annex I and Article 4 (2) of the Directive. The Special Protection Area within the meaning of Sentence 1 shall comprise all of the national park's areas, with the exception of the recreation zone above the mean high-tide line, of core-zone section I/50, of the peripheral Geest areas between Sahlenburg and Berensch and of core-zone section I/12 north of the line between the coordinates 6° 34' 51" E, 53° 41' 54" N and 7° 00' 00" E, 53° 45' 24" N.

1. The priority habitat types
decalcified fixed dunes with *Empetrum nigrum* (brown dunes), fixed coastal dunes with herbaceous vegetation (grey dunes), coastal lagoons (beach lagoons);

2. The habitat types
sandbanks which are slightly covered by sea water all the time; (non-vegetated) mudflats and sandflats not covered by seawater at low tide; large, shallow inlets and bays (shallow-water zones and sea-grass meadows); reefs, *salicornia* and other annuals colonizing mud and sand; spartina swards (*Spartinum maritima*); Atlantic salt meadows (*Glaucoc-Puccinellietalia maritima*); embryonic shifting dunes, shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes"); dunes with *Hippophae rhamnoides*; dunes with *Salix repens ssp. argentea* (*Salicion arenariae*); wooded dunes of the Atlantic, Continental and Boreal region; humid dune slacks; estuaries; oligotrophic to mesotrophic standing waters; and

3. The non-prioritary plant and animal species
seal, harbour porpoise, sea lamprey and fen orchid.

2 The protection purpose pursuant to Sentence 1 shall apply to areas that, in the Act on the "Wadden Sea of Lower Saxony" National Park of 15 July 1999 (Lower Saxony’s Law Gazette p. 164), are designated as core zones and transition zones in the national park, as well as to core zone I/1 pursuant to this Act and the areas referred to in Annex 3 to this Act, maps 34 and 35, as core zones or transition zones. 3 All persons may view the Act of 15 July 1999, at no charge, at the facilities of the lower nature conservation authorities in the territory of the national park and at the facilities of the national park’s administration. 4 Where in a procedure pursuant to Article 4 (2) of Directive 92/43/EEC areas of the national park other than those specified in Sentence 2 are defined as areas of Community importance, such definition shall take precedence. 5 The Ministry of the Environment of Lower Saxony shall publicly announce what areas are of relevance under Sentence 4.

Section 3
Area of application

(1) 1 The boundaries of the national park are shown in the attached maps, which are part of this Act:
1. Map drawn to a scale of 1 : 100,000 (Annex 2),
2. Reduced-size German basic maps (Deutsche Grundkarten) drawn to a scale of 1 : 10,000 (Annex 3).
2 Areas enclosed by the national park that are not assigned to any of the zones listed in Section 5 (1) are not part of the national park.

(2) On the seaward side and in the estuaries of the Ems, Weser and Elbe rivers, and in Jade Bay, the line connecting the points shown in Annex 2 and specified via geographic coordinates (GPS - World Geodetic System 84) shall be the standard for demarcation of the national park, except where Lower Saxony’s state boundary, or a flow-guidance structure, passes through the Elbe and Weser river estuaries, between two coordinate points; in such cases, the national park's boundary shall be formed by the state boundary or by that side of the flow-guidance structure’s base that faces away from the current.
Annex 17, National Park Act Niedersächsisches Wattenmeer

(3) The national park’s landward boundaries are shown, as dotted lines, in Annexes 2 and 3. In the boundary sections marked, in Annexes 2 and 3, by an interrupted dotted line, the boundary shall be defined by the mean high-tide line. In the sections marked, in Annexes 2 and 3, by a red dotted line, the dike’s seaward boundary (Section 4 (3) of Lower Saxony’s Act on dikes) shall define the park’s boundary. The map shall be the standard for determining the course of the boundaries shown, in Annexes 2 and 3, by a black, non-interrupted dotted line. Where, pursuant to Sentence 3, the dike’s seaward boundary forms the national park’s boundary, the latter boundary shall change in keeping with permitted changes of the existing dike. If necessary in such cases, the ministry responsible for nature conservation shall re-issue Annexes 2 and 3.

Section 4
Setting aside of areas for airfields and airstrips

(1) The state government shall be authorised to remove, by ordinance, areas on the East Frisian islands from the territory of the national park in order to make it possible to lengthen existing runways, if the necessary permits have been issued for such action – especially permits under air transport laws – and such lengthening is urgently required in order to fulfill requirements pursuant to Section 1 (2) No. 1 of the Ordinance on operation of aircraft (Betriebsordnung für Luftfahrzeug) of 4 March 1970 (Federal Law Gazette I p. 262), last amended by Article 3 of the ordinance of 3 August 1998 (Federal Law Gazette I p. 2010, 2669).

(2) Where areas are removed from the territory of the national park, pursuant to Para.1, the maps pursuant to Section 3 (1) shall be suitably modified within the framework of the relevant ordinance.

Section 5
Division into zones

(1) The national park shall be divided into three zones, as shown in the maps pursuant to Section 3 (1):
1. Core zone (Zone I) – red,
2. Transition zone (Zone II) – green,
3. Recreation zone (Zone III) – yellow.

Where not otherwise specified in Paragraphs 3 and 4, the maps specified in Section 3 (1) shall be the standard for determining the zones’ boundaries.

(3) The areas of the core zone are described in Annex 1. The following shall apply for demarcation of core-zone areas:
1. Unchanging boundary points shall be determined by means of geographic coordinates.
2. The map specified in Section 3 (1) shall be the standard for determining the core-zone boundaries shown, via an unbroken line in the map, as permanent boundaries.
3. The course of the core-zone boundaries shown, via an interrupted line, in the map referred to in Section 3 (1), as changing boundaries, shall be described via the information contained in Annex 1 – and, at sea,
in connection with the relevant valid official sea chart. Where a core-zone boundary is formed by the outer side of a flat or a sand area, the zero line on the relevant sea chart shall be the standard; where the core-zone boundary is formed by a tidal channel (*Priel*), a navigation channel (*Balje*) or a natural or artificial passage (*Gaf*), the sea chart's zero line on the side facing toward the core zone shall be the standard. Where the boundary is formed by buoys, a dune base or other locally identifiable natural or artificial landmarks, the locations of such landmarks shall be the standard.

(4) 1The seaward boundary of the recreation zone shall be formed by the mean high-tide line, except where Annex 3 designates lower areas as recreation zones. 2In such cases, the seaward boundary, marked with an interrupted line, shall be formed by the sea-chart's zero line; the side boundary shall be formed by the straight line between marking posts which, as specified in Annex 3, stand in each case on the mean high-tide line and above that line. 3Otherwise, demarcation of lower areas of the recreation zone shall be in accordance with the description given in Annex 3.

**Section 6**

**Actions prohibited in the core zone**

(1) 1In the core zone, all actions are prohibited that destroy, damage or change the national park or any of its components. 2By way of derogation from Sentence 1, the actions specified in Arts. 7 to 11, and 16, and the actions specified in Annex 1, shall be permitted. 3Sentence 2 shall not apply to the areas I/7, I/23, I/35, I/37, I/38, I/41, I/42 and I/45, where the actions destroy, damage or change the soil, its vegetation or any *Psammocorallia*.

(2) In the interest of preventing disturbances and hazards for the national park's protected assets, it shall be prohibited

1. to disturb the peace of the park's nature via noise or other means,
2. to disturb wild animals, or to seek out, photograph or film them in their nesting, breeding, dwelling and refuge areas,
3. to permit dogs to run unleashed, where such action does not occur in the framework of permitted hunting,
4. to light or feed fires in places other than designated places for fires,
5. to fly kites, model aircraft or other small aircraft, to launch balloons, or to operate remote-controlled vehicles outside of pathways, where such actions are not permitted by this Act or on the basis of this Act.

**Section 7**

**Agriculture and grazing in the core zone**

(1) 1Except as provided in Sentence 2, no restrictions shall be placed on proper agricultural soil use on areas protected by a primary dike, summer dike or protective dune, including maintenance and renovation of pertinent facilities, grazing of horses on inhabited islands and erection of conventional-type pasture fences, livestock waterers and milking parlours. 2It shall be prohibited

1. to grade areas, to change the profile of the land surface from that present upon the entry into force of this Act or to carry out excavations or land-filling,
2. to convert grassland areas to farmland,
3. to plow grassland for purposes of new seeding, and
4. to use plant pesticides.

(2) Proper agricultural soil use on areas not protected by a primary dike, summer dike or protective dunes, including maintenance and renovation of pertinent facilities and grazing of horses on the area's inhabited islands, shall be permitted in the manner and extent in which such use has been carried out to date.

(3) The Weser-Ems district government shall control management of state-owned areas not protected by a primary dike, summer dike or protective dunes, taking account of Section 2, via foreland-management measures, and in cooperation with the relevant affected dike association (Deichverband).

(4) The national park's administration shall reach agreement, with the relevant island communities and demesne administrations, and with the participation of affected owners of haulage firms, regarding a grazing plan for the state-owned salt-meadow (Heller) areas on the islands of Baltrum, Juist and Spiekeroog. The grazing plan shall regulate options for grazing, taking special account of the draught horses used for transport purposes. The plan shall ensure that habitat types pursuant to Section 2 (3) in the national park that are affected by grazing are not significantly impaired and that avifauna are protected against significant impairments and disturbances. The plan shall take account of the existing extent of grazing.

Section 8
Hunting in the core zone

(1) Hunting rights may be exercised in keeping with Lower Saxony's Hunting Act (Niedersächsisches Jagdgesetz), to the extent Paragraph 2 does not make other provisions.

(2) Hunting of waterfowl shall be permitted only on inhabited islands and only with the consent of the national park's administration. Such consent shall be granted separately for each island, for a period totalling up to ten days per year; the days on which hunting is permitted need not form a single, continuous hunting period. Applications must be submitted in writing, by the holder of the lease to the relevant hunting district, no later than one week prior to the planned hunting date. Consent for hunting shall be tied to the condition that hunting shall not significantly undermine the protection purpose of this Act. No consent for hunting shall be given for official census days, in the framework of international censuses of water and wading birds, as announced by Lower Saxony's state office for ecology – state bird conservation station (Niedersächsisches Landesamt für Ökologie – Staatliche Vogelschutzwarte). If a day for which permission for hunting has been granted is not used, due to inclement weather, consent for a substitute day shall be provided, upon application, subject to the provisions of sentences 3 to 5.

(3) The national park's administration may initiate measures for controlling populations of game species and other animal species, including waterfowl.

Section 9
Fishing in the core zone
(1) Commercial fishing for fish and shrimp, and commercial fishing with fixed nets, including use of mud sleds, shall be permitted in the core zone; this shall not apply to the areas I/8, I/10, I/18, I/24, I/28, I/30, I/32, I/33, I/34 and I/48.

(2) Commercial mussel fishing, and establishment of mussel farms, shall be permitted, subject to the restrictions arising from sentences 2 and 3, in core-zone areas I/2, I/4, I/5, I/6, I/13, I/14, I/21, I/22, I/27, I/29, I/31, I/36, I/39 and I/40. Collection of stocking mussels shall be permitted only in the framework of a management plan issued, and updated every five years, by the supreme fisheries authority, in cooperation with the supreme nature conservation authority, and in keeping with the protection purpose of this Act; this shall also apply to core zone area I/17, except where collection of stocking mussels is permitted in that area pursuant to Annex 1. Mussels intended for human consumption may be collected from wild mussel beds only when they are continually covered by water in such beds.

(3) Fishing for sport and recreation, including digging by hand for worms in mud flats, shall be permitted in the core area, from specially marked paths and fishing areas.

(4) Co-fishing rights of inhabitants of the city of Langen, of the municipality of Nordholz and of the Land Wursten federation of municipalities (Samtgemeinde), in areas I/44 and I/45, and in the south of the eastern part of area I/47 – bounded to the west by the Neucappeler Tief area and bounded to the north by the Oxstedter Tief area – and as entered in the water register (Wasserbuch) for the Weserküste area, may be exercised to the extent that the areas can be travelled on foot.

Section 10

Other uses in the core zone

Operation of honeybee mating areas, on the islands, and removal of silt from designated areas, for medical purposes, shall be permitted.

Section 11

Entry into the core zone

The core zone may be entered only for the following purposes:

1. for engaging in uses permitted pursuant to Arts. 7 to 10,
2. for purposes of hiking over tidal flats ("Wattwandern"), hiking, cycling, horseback riding, carriage rides and for supply transports, on designated pathways and routes,
3. for use of public roads,
4. for temporary stays by crews of sport boats that have been grounded by low tide directly next to a navigation lane that crosses the core zone within the meaning of Section 2 (1) No. 1 of the German traffic regulations for navigable maritime waterways (Seeschifffahrtsstraßen-Ordnung), within a 50 meter radius around the boat,
5. for inspection of water vessels grounded by low tide, on designated locations near the harbour channel (Hafentief).
Section 12
Actions prohibited in the transition zone

(1) Prohibitions pursuant to Section 6 shall apply, mutatis mutandis, in the transition zone, except where other provisions follow from the following paragraphs.

(2) Where the protection purpose permits, exemptions may be permitted, in individual cases, from Section 6 (1) Sentence 1 for

1. measures that result in damage to the vegetation cover,
2. the erection of vending facilities, booths, temporary structures, tents and beach baskets (Strandkörbe) and
3. the installation of advertising media, signs or inscriptions.

Under conditions pursuant to Sentence 1, exemptions shall be permitted for

1. removal of sand or soil material for maintenance of coastal-protection structures, and
2. removal of sand for maintenance of beaches located in the recreational zone, or located on the East Frisian islands, outside of the national park.

(3) The prohibition under Section 6 (2) No. 1 shall not apply to events for celebrating traditional customs. Exemptions may be permitted, in individual cases, from the prohibition pursuant to Section 6 (2) No. 2, to an extent in keeping with the protection purpose.

Section 13
Uses permitted in the transition zone

(1) Arts. 7 to 10 shall apply mutatis mutandis, except where other provisions arise through the following paragraphs.

(2) Exemptions from restrictions pursuant to Section 7 (1) Sentence 2 Nos. 3 and 4 may be permitted, to an extent in keeping with the protection purpose.

(3) Restrictions pursuant to Section 8 on hunting waterfowl shall not apply.

(4) The provision established by Section 9 (2) shall apply, mutatis mutandis, throughout the entire area of the transition zone.

(5) Fishing for sport and recreation, including digging for worms in mud flats, shall be permitted throughout the entire transition zone, in keeping with the provisions of Section 14 (2).

(6) Inhabitants of municipalities whose territories are located fully or partly in the national park (local population), may

1. collect edible mushroom and berries and,
2. harvest cabbage for their own use, in the months of May and June, and between the Weser and Elbe rivers.

Section 14
Entry into the transition zone
(1) Except for the purposes listed in Arts. 11, 12 and 13, persons may enter the transition zone only on foot, by wheelchair or by non-motorised vehicles. Parking of mobile homes shall be prohibited. Overnight stays shall be permitted only on sport boats anchored near harbours of the East Frisian islands, in designated locations, and must be limited to a total of one night. In derogation of Sentence 1, driving or parking of motorised vehicles may be permitted, to an extent in keeping with the protection purpose.

(2) During the period from 1 April to 31 July of each year (a period when birds breed and raise young), grassland areas, and associated tidal channels, located between the primary dike, the protective dune base facing the tidal flats or the seaward base of the Geest-area boundary, and the mean high-tide water line, may be entered only on designated areas, roads, pathways or routes. This restriction shall not apply to exercise of uses permitted pursuant to Arts. 7, 8, 9 (1), (2) and (4) and Section 13 (6) No. 2. Where the protection purpose permits, exemptions from the prohibition on entry set forth in Sentence 1 may be permitted.

(3) Rights of entry may be restricted, via individual order, for certain areas that, following the entry into force of this Act, develop into a habitat pursuant to Section 2 (3) or into a biotope pursuant to Section 28 a (1) of Lower Saxony’s Nature Conservation Act, or that have acquired a significantly greater importance with regard to species conservation pursuant to Section 2 (2) or (3), or if such a restriction is required to counter significant impairment of habitats of the priority types named in Section 2 (3) Sentence 1 No. 1. Such restrictions shall be limited in duration to a period of no longer than five years. Upon their expiration, restrictions may be extended once for a period of no longer than five years, if the reasons for the restriction are still extant.

Section 15
Recreation zone

(1) The recreation zone may be used only for recreation, especially for such activities as walking, camping, swimming, sitting in beach baskets, horseback-riding, fishing, collection of mussels, kite-flying and sports activities. Use of motorised vehicles, and erection of beach igloos, mobile changing cabins and toilets, and of similar mobile facilities, shall be permitted to the extent required to make uses permitted under Sentence 1 possible.

(2) In particular, it shall be prohibited
1. to erect camping tents or to set up caravans,
2. to hold noise-intensive events,
3. to drive beach buggies, or similar motorised recreational vehicles, on the beach, and
4. to erect structures, except as permitted under Paragraph 1 Sentence 2.

(3) Noise-intensive events, except for motor-sports events, may be permitted in individual cases, to an extent in keeping with the protection purpose.

(4) Removal and filling of sand, for purposes of beach maintenance, shall be permitted, to an extent in keeping with the protection purpose.
(5) Uses pursuant to Paragraph 1 Sentence 1 shall be restricted, via individual orders, where they can lead to destruction, or to significant or lasting impairment, of a biotope within the meaning of Article 20 c (1) of the Federal Nature Conservation Act and are not required for predominating reasons of the public interest.

Section 16
Exceptions

1. Measures serving the purpose of fulfilling public tasks
   a) of the national park's administration,
   b) for collection of waste and for cleaning of the beach,
   c) of the water-resources administration, except for new construction of dikes,
   d) of the fisheries administration and the hunting administration,
   e) for preventing hazards and dangers, for disaster management, of explosive ordnance removal services and for accident response, including sea rescue,
   f) of Lower Saxony's state office for soil research (Niedersächsisches Landesamt für Bodenforschung),
   g) of the Federal Authority for Maritime Shipping and Hydrography (BSH) (sea surveying),
   h) of the German Federal Waterways Administration (WSV), for fulfillment of the tasks with which it is legally charged, especially tasks with regard to federally owned structures of the maritime navigation and electrical infrastructure, and to the island-protection structures to be maintained by the Federal Government pursuant to Section 8 (5) of the Federal Waterway Act (Bundeswasserstraßengesetz), with the exception of widening of waterways,

2. Maintenance measures carried out by organisations responsible for dike maintenance (coastal protection), with the exception of new dike construction,

3. Measures for maintenance and service
   a) in existing harbour access ways, including the pertinent navigation lanes,
   b) for existing roads and pathways, including the pertinent peripheral areas in keeping with Section 2 (2) of Lower Saxony's Road Act (Niedersächsisches Straßengesetz),
   c) on existing summer dikes,
   d) in dike forelands, where such measures are required for dike safety pursuant to Arts. 21 and 22 of Lower Saxony's Dike Act (Niedersächsisches Deichgesetz),

4. The operation, maintenance and servicing
   a) of pipelines, cables and transport lines for supply of energy and water and for wastewater removal, including pertinent facilities,
   b) postal and telecommunications facilities,
   c) existing railway and air-transport infrastructure facilities,
   d) existing facilities for production and supply of drinking water,
5. The use and maintenance of existing, permitted structures and facilities, and their pertinent open areas, in keeping with the relevant applicable permits, and
6. The use and maintenance of the existing tenting area in the Süderdünen bounded area (Gemarkung) on the island of Spiekeroog.

Where measures pursuant to Sentence 1 Nos. 1 and 2, either individually or in conjunction with other measures, could significantly impair protected assets pursuant to Section 2 (2) and (3), they shall be permitted only under the conditions set forth in Article 19 c of the Federal Nature Conservation Act.

Dumping of sand, silt and dredged or excavated material, except for shifting of material in the immediate vicinity of navigation lanes and tidal inlets, shall not be exempted. Collection of waste, and beach cleaning pursuant to Sentence 1 No. 1 letter b, shall be permitted in the core zone only at certain times, as defined by the competent authority, taking account of the relevant protection purpose and by agreement with the national park's administration.

Section 17
Exemptions

Exemptions from the prohibitions under this Act may be granted, upon application, if
1. Application of the provisions, in individual cases,
a) would lead to unintended hardship, and departure from the provisions can be reconciled with the needs of nature conservation and landscape management, or
b) would lead to an unintended impairment of natural assets and the landscape
or
2. predominating reasons of the public interest necessitate the exemption.

Where an application for exemption affects projects or measures that, either individually or in conjunction with other projects or measures, could significantly impair protected assets pursuant to Section 2 (2) and (3), the exemption may be issued only under the conditions set forth in Article 19 c of the Federal Nature Conservation Act.

Section 18
Designation of pathways and other parts of the area

Where, pursuant to Arts. 9 to 11, and 14, and to Annex 1, certain actions are permitted only on designated pathways, routes, areas or other sections of the main area, decisions on pertinent designation shall take account of the protection purpose.

Section 19
Compensation and offsets

For usage restrictions resulting from prohibitions under this Act, or from measures carried out on the basis of this Act, Arts. 50 to 52 of Lower Saxony's Nature Conservation Act shall apply mutatis mutandis.
Section 20
Provision of information

(1) The national park's administration shall provision information and carry out educational activities, to the extent reconcilable with the protection purpose pursuant to Section 2. To this end, it shall maintain suitable facilities in the national park territory or shall cooperate in maintaining such facilities.

(2) Informational and educational activities should have the function of helping to achieve the national park's protection purpose and to enhance public awareness of ecological relationships. Such activities should call attention to the possibilities for experiencing nature and engaging in recreation that the national park offers, and it should communicate the national park's aims to the public. Such activities should also explain work carried out in the national park, including scientific studies and research projects.

(3) In its informational and educational activities, the national park's administration should cooperate with relevant municipalities and associations, where such organizations carry out public relations work with regard to the national park, and should do so especially via jointly operated or Land-(state-)subsidised facilities. The national park's administration may arrange for suitable persons to take part in informational and educational activities.

Section 21
Research

(1) The national park's administration shall carry out scientific studies of its own and coordinate external research projects. Scientific monitoring and research in the national park shall be subject to the consent of the national park's administration; such consent shall be provided where such monitoring and research have the aims of

1. Studying the organisation, development and interrelationships of natural and semi-natural communities,
2. Gaining findings relevant to nature conservation,
3. Yielding findings about human impacts or findings relevant to supra-regional monitoring of environmental changes, or
4. Supporting the national park's administration in fulfillment of its tasks and are reconcilable with the protection purpose pursuant to Section 2.

(2) Relevant consent may be provided subject to the condition that findings from monitoring and research be made available to the national park's administration.

Section 22
Management and development measures

(1) The national park's administration may order certain measures for management or development of the national park. Section 29 (2), (3) and (5) of Lower Saxony's Nature Conservation Act shall apply mutatis mutandis.
(2) Associations and other legal entities may be given responsibility, subject to their own consent and subject to revocation, for

1. Management, care and development of parts of the national park, and
2. Certain tasks of species conservation

if they provide guarantees that such tasks will be properly fulfilled. Relevant decisions shall be taken by the national park's administration. Sovereign powers may not be transferred.

Section 23
Administration

Administration of the national park, including the park's areas located in the Lüneburg administrative district, shall be carried out by the district government of Weser-Ems, via the "Wadden Sea of Lower Saxony" ("Niedersächsisches Wattenmeer") administration, located in Wilhelmshaven, except as this Act specifies that other authorities shall be responsible.

Section 24
Responsibilities

(1) In addition to having responsibility for tasks assigned to it in Arts. 7, 8 and 20 to 22, the national park's administration shall also be responsible for

1. Preparing concepts for conservation, development and management measures,
2. Coordinating the work of lower nature conservation authorities active in the national park's territory, as well as of the agencies and associations entrusted with, or otherwise active in, tasks of management, support and development in the national park's territory,
3. Permitting exceptions, and granting exemptions, in the transition zone and recreation zone, except where a lower nature conservation authority is responsible pursuant to Paragraph 2, and granting exemptions in the core zone,
4. Designating pathways, routes, areas and other sections of the general area, for certain actions pursuant to Section 18, and, in the territory for which a lower nature conservation authority is responsible, making such designations with the consent of that authority,
5. Determining the condition of the protected assets specified in Section 2 (3), for preparation of reporting to the European Commission,
6. Exercising rights of preemption on behalf of the Land (state),
7. Restricting rights of entry pursuant to Section 14 (3), except where a lower nature conservation authority is responsible pursuant to Paragraph 2,
8. Restricting uses pursuant to Section 15 (5), except where a lower nature conservation authority is responsible pursuant to Paragraph 2, and
9. Carrying out other tasks, including tasks assigned to lower nature conservation authorities by Section 55 (2) Sentences 1 and 2 of Lower Saxony's Nature Conservation Act, except where this Act makes other provisions.
(2) The competent lower nature conservation authorities shall be responsible for:
1. Permitting exceptions, and granting of exemptions, with regard to areas in the recreation zone and transition zone that lie within their areas of responsibility,
2. Restricting rights of entry pursuant to Section 14 (3) with regard to areas that lie within their areas of responsibility,
3. Restricting uses pursuant to Section 15 (5) with regard to areas that lie within their areas of responsibility,
4. Coordinating with dike associations (Deichverbände) regarding removal of flotsam in dike forelands, and
5. Taking decisions on projects involving soil removal, with regard to areas in the recreation zone and transition zone that lie within their areas of responsibility.

Exceptions, exemptions and permits and orders pursuant to Sentence 1 shall be granted/issued by agreement with the municipality on whose territory the action or measure is to take place.

(3) Where a project requires several exceptions or exemptions pursuant to Paragraph 1 and Paragraph 2, then the national park's administration shall decide upon the granting of such exceptions or exemptions, by agreement with the relevant lower nature conservation authority.

(4) The national park's administration shall be responsible for measures pursuant to Section 63 of Lower Saxony's Nature Conservation in the core zone and in non-municipal sections of the transition zone and recreation zone located below the mean high-tide water line, including such areas located within the Lüneburg administrative district. Otherwise, the relevant lower nature conservation authorities shall be competent.

(5) The national park's administration may form a landscape ranger service, consisting of suitable persons, to monitor the territory of the national park and ensure that species are protected.

Section 25
Regional interests

In their decisions pursuant to this Act, the competent authorities shall take account of the local population's interests in safeguarding and developing their living and working conditions, as well as the interests of regional development, commerce and business and tourism, to an extent in keeping with the protection purpose.

Section 26
State-owned lands

The authorities that, in the framework of their competencies, take decisions regarding use of Land-(state-)owned lands and granting of usage rights, shall in this regard take special account of the Act's protection purpose.
Section 27
National park advisory board

(1) 1 An advisory board shall advise the national park's administration; the advisory board shall support the national park's administration in its task of fulfilling the protection purpose while taking other public interests into account. 2 The advisory board's members shall include
1. Two members for the lower nature conservation authorities in whose scope of responsibility parts of the national park lie,
2. Three members for relevant municipalities,
3. Two members for the nature conservation associations recognised pursuant to Article 29 of the Federal Nature Conservation Act,
4. One member each for chambers of commerce, for chambers of agriculture whose spatial areas cover parts of the national park, for dike associations, tourist associations and the state athletic federation (Landessportbund),
5. Two members representing Lower Saxony's universities' scientific departments for nature conservation / landscape management and biology,
6. One member from the Federal Ministry responsible for nature conservation, and
7. One member for the Weser-Ems state fisheries federation (Landesfischereiverband).

(2) 1 The members of the advisory board shall be appointed by the supreme nature conservation authority for a period of five years. 2 The members pursuant to Paragraph 1 Sentence 2 Nos. 1, 3 and 4 shall be appointed by the authorities, associations and bodies that send them, while the members pursuant to Paragraph 1 Sentence 2 No. 2 shall be appointed by the working group of Lower Saxony's municipal leading associations (Arbeitsgemeinschaft der kommunalen Spitzenverbände Niedersachsens) and the members pursuant to Paragraph 1 Sentence 2 No. 5 shall be appointed by the relevant departments.

3 Section 12 (1) of Lower Saxony's equal rights act (Niedersächsisches Gleichberechtigungsgesetz) shall apply mutatis mutandis to appointments.

(3) If, in cases in which several associations and organisations have joint rights of appointment (Paragraph 1 Sentence 2 Nos. 1, 3, 4 and 5), the participating associations and organisations cannot reach agreement within a period of two months following the request for an appointment, then the supreme nature conservation authority shall take the relevant decision.

(4) 1 The national park's administration shall hear the advisory board
1. In connection with preparation of concepts for conservation, development and management measures,
2. In connection with research projects (to the extent the national park's administration is involved in them),
3. In connection with preparation of informational material about the national park or parts thereof,
4. In connection with formation of a landscape ranger service, and
5. In connection with questions of national and international cooperation (research, excursions, etc.).
2 The advisory board may make proposals, regarding measures in the national park, to which the national park's administration must respond in the framework of its competencies.
(5) The advisory board’s regular course of business, including representation of advisory board members, shall be defined by rules of procedure issued by the supreme nature conservation authority.

Section 28
Administrative offences

(1) Anyone who, intentionally or negligently, and without such action’s having been permitted by this Act or on the basis of this Act,
1. in contravention of Section 6 (1), undertakes an action, in the core zone, that destroys, damages or changes the zone or its individual components,
2. in contravention of Section 6 (2) undertakes a disturbing or dangerous action in the core zone,
3. enters the core zone for purposes other than those permitted by Section 11,
4. in contravention of Section 12 (1) in conjunction with Section 6 (1), undertakes an action, in the core zone, that destroys, damages or changes that zone or its individual components,
5. in contravention of Section 12 (1) in conjunction with Section 6 (2), undertakes a disturbing or dangerous action in the transition zone,
6. enters the transition in violation of Section 14,
7. in the recreation zone, violates the prohibitions of Section 15 (2) or a restriction pursuant to Section 15 (5), shall be deemed to have committed an administrative offense.

(2) An administrative offence pursuant to Paragraph 1 Nos. 2, 3 and 5 to 7 shall be punishable with a fine of up to 30,000 euros, while an administrative offence pursuant to Paragraph 1 Nos. 1 and 4 shall be punishable with a fine of up to 55,000 euros.

(3) Section 66 of Lower Saxony’s Nature Conservation Act shall apply mutatis mutandis to administrative offences pursuant to this Act.

Section 29
Application of Lower Saxony’s Nature Conservation Act

With the exception of Arts. 5, 6, 7 (2) Sentence 2, Arts. 28 a, 28 b and 55 (2) Sentences 1 and 2, the provisions of Lower Saxony’s Nature Conservation Act shall apply, except where this Act makes other provisions.

Section 30
Transitional provisions

(1) Pathways that, upon the entry into force of this Act, become parts of the core zone for the first time, may be used in the existing manner for one year following the entry into force of this Act.

(2) The management plan of 30 November 1998 issued by the supreme fisheries authority, in cooperation with the supreme nature conservation authority, shall be considered the management plan within the meaning of Section 9 (2) Sentence 2. It shall be updated by 1 December 2003.
(3) The national park advisory board pursuant to Section 27 shall not be appointed until after the end of
the current advisory board's term of office.

(4) Until 31 December 2001, fines pursuant to Section 28 shall be fixed in deutschmarks, in keeping with
the standard conversion rate.

Article 2
Changes and suspension of provisions

Section 1
Amendment of Lower Saxony's Nature Conservation Act

Lower Saxony's Nature Conservation Act, in the version of 11 April 1994 (Lower Saxony Law Gazette
(Nds. GVBl.) p. 155), last amended by Article 10 of the Act of 15 December 2000 (Lower Saxony Law
Gazette (Nds. GVBl.) p. 378), shall be amended as follows:

1. Section 25 shall be deleted.

2. In Section 29 (5), the words "and national parks" ("und Nationalparke") shall be deleted.

3. In Section 52 (1) Sentence 1, the words "national parks" ("Nationalparks"), and the reference "Section
25 (2)", shall be deleted.

4. Section 53 (1) shall be amended as follows:
   a) The existing Sentence 1 shall become the only sentence.
   b) Sentence 2 shall be deleted.

5. Section 55 (3) shall be amended as follows:
   a) The existing Sentence 1 shall become the only sentence.
   b) Sentence 2 shall be deleted.

6. In Section 64 No. 4, the reference "or Section 25 (2)", the words "or national park" ("oder Nationalpark")
and, following the words "the nature conservation area" ("das Naturschutzgebiet"), the comma and the
words "the national park" ("den Nationalpark") shall be deleted, and the word "their" ("ihrer") shall be
replaced by the word "its" ("seiner").

Section 2
Suspension of ordinances on nature conservation areas and a landscape-conservation area

(1) The Ordinance on the "Dollart" nature conservation area of 17 September 1980 (Official Gazette
(Amtsblatt) for the Weser-Ems administrative district p. 998), and the Ordinance on the "Duhner
Heide/Wittsand" nature conservation area of 18 October 1990 (Official Gazette (Amtsblatt) for the
Lüneburg administrative district, p. 207; 1994 p. 122) shall be suspended.

(2) The Ordinance on the "Eichenkrattwälder bei Berensch" nature conservation area of 9 December 1982
(Official Gazette (Amtsblatt) for the Lüneburg administrative district, p. 282), the Ordinance for
conservation of landscape sections in the Land Hadeln district (Wernerwald and beach) of 2 November
1938 (Official Gazette (Amtsblatt) of the Stade government, p. 148), amended by ordinance of the
Cuxhaven rural district of 21 May 1986 (Official Gazette (Amtsblatt) for the Lüneburg administrative district, p. 198), the Ordinances for conservation of landscape sections in the municipality Berensch-Arens (Land Hadeln district) of 23 March 1960 (Official Gazette (Amtsblatt) for the Stade administrative district, p. 35) and of 23 September 1960 (Official Gazette (Amtsblatt) for the Stade administrative district, p. 128) and the First supplementary ordinance (Nachtragsverordnung) for protection of natural monuments in the Land Hadeln district of 30 June 1938 (Official Gazette (Amtsblatt) of the Stade government, p. 119), shall be suspended to the extent they comprise areas that, upon the entry into force of this Act, become part of the "Wadden Sea of Lower Saxony" National Park.

Article 3
Entry into force

(1) This Act shall enter into force on the day after it is promulgated.

(2) At the same time, the Act on the "Wadden Sea of Lower Saxony" National Park of 15 July 1999 (Lower Saxony's Law Gazette (Nds. GVBl.) p. 164) shall expire.

Annex 1

<table>
<thead>
<tr>
<th>Area of core zone No.</th>
<th>Designation, extent</th>
<th>Special protection purpose</th>
<th>Permitted uses in addition to stipulations in Sections 6 to 11 and 16</th>
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<tr>
<td>I/1 Dollart</td>
<td>Outer dike and tidal flat (Watt) areas to the state boundary south of the line heading west and connecting the base of the Geisesteert flow-control structure with the turning point of the state boundary to the south</td>
<td>Typical ecosystem of a brackish bay mud flat and bordering outer-dike areas, with characteristic plants and animals, and with special importance as a resting, breeding and feeding area for sea, wading and water birds, and with a special diversity of geological and cultural features</td>
<td></td>
</tr>
<tr>
<td>I/2 Rysumer Nacken</td>
<td>Outer dike and coastal tidal flats between the Upleward recreation zone and the outer boundary of the national park west of the Rysumer Hammrich area Manslagter Nacken Outer dike and coastal tidal flats between the monument dike and the Altendeich area</td>
<td>Important breeding, resting and feeding area for wading and water birds, important habitat of characteristic animal and plant species and communities, and typical ecosystem with features including tidal mud flats, sandbanks and lumachelles and dike foreland</td>
<td></td>
</tr>
<tr>
<td>I/3 Greetsieler Nacken</td>
<td>Outer dike and coastal tidal flats between the Ley navigation channel and Pilsum</td>
<td>Important breeding, resting and feeding area for wading and water birds, important habitat of characteristic animal and plant species and communities, and typical ecosystem with features including tidal mud flats, sandbanks and dike foreland</td>
<td></td>
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<tr>
<td>I/4 Leybucht</td>
<td>Important resting and feeding area for wading and water birds,</td>
<td></td>
<td>Operation of the oil rig and transport pipeline</td>
</tr>
<tr>
<td>Area</td>
<td>Description</td>
<td>Importance</td>
<td>Notes</td>
</tr>
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<tr>
<td>I/5</td>
<td>Leybucht Sände</td>
<td>Important section of seal habitat, important resting and feeding area for wading and water birds, important habitat for characteristic animal and plant species and communities, and typical ecosystem with sandbanks, island formation and mud flats</td>
<td></td>
</tr>
<tr>
<td>I/6</td>
<td>Randzel and Lütje Hörn Sands south of the Borkum Wadden Sea navigation channel, and not including the Boesgatje area</td>
<td>Important section of seal habitat, important resting and feeding area for wading and water birds, important habitat for characteristic animal and plant species and communities, and typical ecosystem with sandbanks, island formation and mud flats</td>
<td></td>
</tr>
<tr>
<td>I/7</td>
<td>Randzel eelgrass communities Area, bounded by coordinates, south-east of the &quot;blind&quot; Randzelgat area</td>
<td>Important eelgrass communities</td>
<td></td>
</tr>
<tr>
<td>I/8</td>
<td>Borkum – Øst (east) Waterdelle/Muschelfeld area, east dunes and island salt marshes and dike foreland, salt meadows, embryonic dunes, beach and island tidal flats north of the Borkum Wadden Sea navigation channel, between a coordinate-defined line and the Ostplate area, but not including the northern foreshore area and a connecting beach strip 50 m wide, above the mean high-tide water line, to the Hooge Hörn area</td>
<td>Important habitat of characteristic plant and animal species and communities, and typical ecosystem, with coastal dunes, wet dune slacks, fens / marshes; important breeding area for harriers, important section of seal habitat, important breeding, resting and feeding area for water, wading and meadow birds</td>
<td>Collection of edible mushrooms and berries by the local population, for its own consumption, ice-skating by the local population, on Tüskenööisee lake, except in the particularly sensitive shore areas as defined by the national park's administration; collection of mussels and capture of grey mullet (Mugil chelo) in tidal channels, by the local population, for its own consumption</td>
</tr>
<tr>
<td>I/9</td>
<td>Borkum - Nordstrand Primary dune area north of the bases of the Kobbe and Oldmanns-Olde dunes, to 50 m in front of the mean high-tide water line</td>
<td>Important habitat for characteristic plant and animal species and communities; typical ecosystem of embryonic dunes</td>
<td>Entry on foot, outside of designated pathways, in the period from 16 July to 1 March of each year</td>
</tr>
<tr>
<td>I/10</td>
<td>Borkum - Greune Stee and Ronde Plate Dunes, salt meadows and tidal flats in the southern island area, and bounded by the &quot;Süd&quot; and &quot;Wolde&quot; dunes, railway embankment, harbour and south beach and salt meadows, north of the railway embankment from &quot;Ostdeich&quot; to &quot;Reededeich&quot;</td>
<td>Important breeding, resting and feeding area for water and wading birds, important breeding area for harriers, important habitat of characteristic animal and plant species and communities, and typical ecosystem with features including coastal dunes, wet dune slacks, fens / marshes, dike foreland and salt meadows,</td>
<td>Collection of edible mushrooms and berries, and recreational fishing, with handheld nets, by the local population, for its own consumption, except on salt meadows north of the railway embankment</td>
</tr>
<tr>
<td>Annex 17, National Park Act Niedersächsisches Wattenmeer</td>
<td>19</td>
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</tbody>
</table>
| I/11 | Hohes Riff  
Sand and tidal flat areas west of Borkum | Important section of seal habitat, important breeding area for wading birds, characteristic ecosystem with features including sandbanks, coastal tidal flats | 
| 1/12 | Borkum Riff  
Wadden Sea and coastal sea north of Borkum, the Kachelotplate area and Juist, to traffic-separation area | Specific ecosystem with gravely to rocky bottoms, and, especially in southern sub-section, important resting and feeding area for divers, sea ducks and sandwich terns | Skin diving | 
| 1/13 | Kachelotplate/Memmert  
Island tidal flats and uninhabited sand islands, bounded by the "Haaksgat" navigation channel, the Juister Balje area, the Nordland navigation channel and the Memmertbalje and Osterems areas | Important habitat for seals (including grey seals), important breeding, resting and feeding area for water and wading birds, important habitat for characteristic plant and animal species and communities, and typical ecosystem with features including sand beaches, island dunes; area with geologically important land forms (island formation) | Access to island of Memmert by permission of authorities | 
| I/14 | Juist – western section and Schiliplate area  
Dunes, salt meadows and island tidal flats east of northern "Haaksgat" navigation channel, and north of the Juister Balje area | Important section of seal habitat, important breeding, resting and feeding area for wading and water birds, important habitat of characteristic animal and plant species and communities, and typical ecosystem with features including coastal dunes, wet dune slacks, still waters, dike foreland, island tidal flats, sandbanks and salt meadows with large tidal-channel systems | Collection of edible mushrooms and berries and mussels by the local population, for its own consumption, ice-skating and ice-sailing by the local population on Hammersee lake; landing of boats, and entry on foot, in a designated area at the rock fill at the northern edge of the Juister Balje area, south of the pathway to the rescue shelter, and including the access to the walkway for crews of boats located on Juist or Norderney | 
| I/15 | Juist – Mitte (central area)  
Salt meadows between the community of Juist and the airfield | Salt-meadow area with tidal-channel systems, important breeding, resting and feeding area for wading and water birds, important habitat for characteristic plant and animal species and communities; typical ecosystem |  | 
| I/16 | Juist – eastern section  
Beach and island tidal flats, Kalfamer area, including Ostende area, to Kalfamergat area | Important breeding, resting and feeding area for wading and water birds, important habitat of characteristic animal and plant species and communities, and typical ecosystem with features including coastal dunes, wet dune slacks, coastal lagoons, island tidal flats and sandbanks |  | 
| I/17 | Norderney  
South beach polders, dike foreland, salt meadows, dunes, island tidal flats and intertidal mud flats between Norderney town, | Important breeding, resting and feeding area for wading and water birds, important breeding area for harriers, important habitat of characteristic animal and plant species and communities; typical ecosystem | Collection of edible mushrooms and berries by the local population, for its own consumption; stocking-mussel fishing north of the Norderney |
<table>
<thead>
<tr>
<th>Area</th>
<th>Description</th>
<th>Important Features</th>
<th>Additional Information</th>
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<tr>
<td>I/18</td>
<td>Außendeich (outer dike)</td>
<td>Dike foreland, including offshore reclamation fields (Lahnungsfelder) between the Finkenheller and Dornumersiel areas, but not including the Münster summer polder</td>
<td>Important breeding, resting and feeding area for wading and water birds, important habitat for characteristic animal and plant species and communities, and typical ecosystem with features including coastal dunes and wet dune slacks</td>
</tr>
<tr>
<td>I/19</td>
<td>Baltrum - east</td>
<td>Parts of the central island dune area, with embryonic dunes north of the access path for emergency response</td>
<td>Important breeding, resting and feeding area for wading and water birds, important habitat of characteristic animal and plant species and communities, and typical ecosystem with features including coastal dunes and wet dune slacks</td>
</tr>
<tr>
<td>I/20</td>
<td>Baltrum - Osterhook</td>
<td>Salt meadows south of the access path for emergency response, Ostplate area and eastern Baltrum island tidal flats between the Accumer Ee and Baltrum Wadden Sea navigation channel</td>
<td>Important breeding, resting and feeding area for wading and water birds, important habitat of characteristic animal and plant species and communities, and typical ecosystem with features including salt meadows and island tidal flats</td>
</tr>
<tr>
<td>I/21</td>
<td>Dornumer Nacken</td>
<td>Intertidal mud flats (Plate) between the Baltrum Wadden Sea navigation channel and the Accumserieler Balje area</td>
<td>Important section of seal habitat, important resting and feeding area for water and wading birds</td>
</tr>
<tr>
<td>I/22</td>
<td>Neiderplate</td>
<td>Neiderplate area, west Damsumer Sand and Westerburger Watt areas, and dike foreland, including fronting reclamation fields (Lahnungsfelder) from Westeraccumersiel to Höhe Oldendorf</td>
<td>Important resting and feeding area for wading and water birds, typical ecosystem with features including coastal tidal flats and dike foreland</td>
</tr>
<tr>
<td>I/23</td>
<td>Hungatplate</td>
<td>Near-coastal section of the</td>
<td>Important eelgrass communities</td>
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<tr>
<td>Annex 17, National Park Act Niedersächsisches Wattenmeer</td>
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<tr>
<td><strong>Hungatplate area 100 m east of the navigation channel to Bensersiel and in front of the reclamation fields (Lahnungsfelder)</strong></td>
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</tr>
</tbody>
</table>
| **I/24** Langeoog - Flinthörn  
Dunes, salt meadows and tidal flat bay |
| Important breeding, resting and feeding area for wading and water birds, important habitat for characteristic animal and plant species and communities, and typical ecosystem with features including sandy beaches, coastal dunes, dike foreland; area with geologically important land forms (island formation) |
| Collection of edible mushrooms and berries and mussels by the local population, for its own consumption |
| **I/25** Langeoog – Südost (south-east)  
Osterhook, dunes and salt meadows; Langeoog island tidal flats to Langeoog Wadden Sea navigation channel |
| Important section of seal habitat, important breeding, resting, feeding and moultng area for wading and water birds, important habitat for characteristic plant and animal species and communities, and typical ecosystem with features including coastal dunes, wet dune slacks, still waters, salt meadows and dike foreland and island tidal flats |
| Collection of edible mushrooms, berries and mussels, and capture of grey mullet (Mugil chelo) in tidal channels, by the local population, for its own consumption |
| **I/26** Langeoog - Nordost  
North beach, as of the Meierei Ostende access, including the fronting tidal flats and the Süder riff, from the dune base to the Otzumer Balje/Hullbalje navigation channel |
| Important section of seal habitat, important breeding, resting and feeding area for wading and water birds, typical ecosystem, with features including embryonic dunes and sandbanks; area with geologically important land forms (island formation) |
| Entry on foot, outside of pathways, in the period from 16 July to 1 March of each year |
| **I/27** Janssand, Roggsand and Stüversplate  
Tidal flats between the Stüverslegde, Hullbalje, Schillbalje and Baklegde navigation channels and the Neuharlingersiel navigation channel |
| Important section of seal habitat, typical ecosystem with features including sandbanks, coastal tidal flats; area with geologically important land forms |
| **I/28** Spiekeroog – Westergroen and Ostergroen areas  
Western and central sections, with dunes and salt meadows between the former railway line and Spiekeroog town, but not including the campground east of the line at the rescue coordination post; and the salt meadows of Südergroen (eastern section) and Ostergroen |
| Important breeding, resting and feeding area for wading and water birds, important habitat for plant and animal species and communities, and typical ecosystem |
| Collection of edible mushrooms and berries by the local population, for its own consumption |
| **I/29** Spiekeroog - Ostplate  
Spiekeroog island tidal flats, Swinnplate and Bakenplate areas, to the Alte Harle / Muschelbalje navigation channel |
<p>| Important breeding, resting and feeding area for wading and water birds, important habitat for characteristic animal and plant species and communities, and typical ecosystem with features including coastal dunes, wet dune slacks, coastal tidal flats, dike |
| Collection of mussels and capture of grey mullet (Mugil chelo) in tidal channels, by the local population, for its own consumption; movement of heavy transports on the Deichtor line, to the old pier |</p>
<table>
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<tr>
<th>Zone</th>
<th>Description</th>
<th>Features</th>
<th>Access</th>
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<td>I/30</td>
<td>Schwerinsaußengroden area</td>
<td>Foreland, sandbanks, sandy beaches; area with geologically important land forms (island formation); important section of seal habitat</td>
<td>at the Hermann Lietz school (edge of tidal flats)</td>
</tr>
<tr>
<td>I/31</td>
<td>Elisabethaußengroden and tidal flats</td>
<td>Important breeding, resting and feeding area for wading and water birds, important habitat for characteristic animal and plant species and communities, and typical ecosystem with features including coastal tidal flats, dike foreland</td>
<td></td>
</tr>
<tr>
<td>I/32</td>
<td>Wangerooge - West</td>
<td>Important breeding, resting and feeding area for wading and water birds, important habitat for characteristic animal and plant species and communities, and typical ecosystem with features including sandy beaches, coastal dunes, salt marshes, salt meadows and island tidal flats</td>
<td>Collection of edible mushrooms and berries by the local population, for its own consumption</td>
</tr>
<tr>
<td>I/33</td>
<td>Wangerooge - Ost</td>
<td>Important breeding, resting and feeding area for wading and water birds, important habitat for characteristic animal and plant species and communities, and typical ecosystem with features including sandy beaches, coastal dunes, salt meadows and island tidal flats</td>
<td>Landing of boats, and entry on foot, by crews of sport boats, in a special area designated with special account for breeding biotope of little terns, and located between the beach marker buoy (Strandbake) and the old pier, and including the access to the island loop pathway</td>
</tr>
<tr>
<td>I/34</td>
<td>Minsener Oog</td>
<td>Important breeding, resting and feeding area for wading and water birds, typical ecosystems, with features including dry sands and coastal tidal flats</td>
<td></td>
</tr>
<tr>
<td>I/35</td>
<td>Crildumer Siel</td>
<td>Feeding area for wading and water birds, eelgrass communities; habitat for characteristic animal and plant species and communities, especially Psammocorallia communities</td>
<td>Swimming (by visitors) at the Hooksiel swimming beach</td>
</tr>
</tbody>
</table>
as well as the channel area between the sea-chart zero line and the outer boundary of the national park to the south, in the direction of the Hooksieler Hafentief (harbour channel)

<table>
<thead>
<tr>
<th>I/36</th>
<th>Jadebusen</th>
<th>Important section of seal habitat, important breeding, resting and feeding area for wading and water birds, important habitat for characteristic animal and plant species and communities, and typical ecosystem with features including bay tidal flats, dike foreland, floating peat bog; area with geologically important land forms (tidal channel system, floating peat bog)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Petersaußengroden, Cäcilienaußengroden, Sander Watt and Bordumer Sand areas, north of the Dangaster Außentief (tidal inlet); Nordender Außengroden, Dangaster Außengroden, Kronshöme, Schweinsrücken, Arnagastand, western Würdeleher Sand and Vareler Watt, between Leitdamm, Vareler navigation channel (Fahrwasser) and Vareler Tief (channel); Nordschweiburger Groden, Neuer Groden, Neuwapeler Außengroden, Südender Außengroden, eastern Würdeleher Sand and Schweiburger Watt (tidal flats) between Vareler Tief (channel) and Schweiburger Tief; Augustaußengroden, Kleihöme and Sehestedt Außendiechsmoor (floating peat bog), Seefelder and Stollhammer Watt (tidal flats) areas, north of Schweiburger Tief (channel), with the exception of the area of core zone I/38</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>I/37</th>
<th>Vareler Rinne</th>
<th>Habitat for characteristic animal and plant species and communities, especially Psammocorallia communities</th>
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<td>From the outer boundary of the national park to the level of the Arnagast lighthouse, between the Schweinsrücken sea-chart zero line to the west and the Jappensand sea-chart zero line to the east</td>
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<tr>
<th>I/38</th>
<th>Seefelder Watt</th>
<th>Important eelgrass community</th>
</tr>
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<td></td>
<td>Near-coastal tidal flats off the Augustaußengroden salt marshes</td>
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</tbody>
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<thead>
<tr>
<th>I/39</th>
<th>Hoher Weg</th>
<th>Important section of seal habitat, important breeding, resting and feeding area for wading and water birds; important habitat for characteristic animal and plant species and communities, and typical ecosystem with features including sandbanks, coastal dunes, coastal tidal flats, dike foreland; area with geologically important land forms (island formation)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Langwarder Außendiechsgroden (outer dike salt marsh); landing area off the Feldhauser Groden salt marsh, Hohe-Weg-Watt (tidal flats), not including the Turmloch, Mellum, Robbenplate, Mellumriffe and Mellumplate areas, between the Tossens sewage treatment plant and the Sengwarder Baije area, the outer boundaries of the national park and the</td>
<td></td>
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<tr>
<td>Number</td>
<td>Feature</td>
<td>Description</td>
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<tr>
<td>I/40</td>
<td>Große Plate west of the Weser River</td>
<td>Intertidal mud flats from the outer boundary of the national park – from the Langlütjen Oberfeuer area – to Suezpriel, in a westerly direction</td>
</tr>
<tr>
<td>I/41</td>
<td>Burhaver Plate</td>
<td>Intertidal mud flats west of the area of core zone I/40</td>
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<tr>
<td>I/42</td>
<td>Waddenser Plate</td>
<td>Tidal flats off the Waddenser outer dike</td>
</tr>
<tr>
<td>I/43</td>
<td>Groden</td>
<td>Tettenser Groden (salt marsh), Schockumer Groden, Volkenser Groden areas, the Langlütjen I area and offshore tidal flats</td>
</tr>
<tr>
<td>I/44</td>
<td>Rintzel</td>
<td>Rintzel dike foreland and tidal flats between the Wremser Tief, Wurster Arm and Schmarrener Loch areas</td>
</tr>
<tr>
<td>I/45</td>
<td>Schmarrener Watt</td>
<td>Tidal flats off the outer dike, over an area about 500 m wide, from Schmarren to Solthörn</td>
</tr>
<tr>
<td>I/45a</td>
<td>Paddingbütteler Außenendeich (outer dike)</td>
<td>Dike foreland between Paddingbüttel and Dorumer-Neufeld</td>
</tr>
<tr>
<td>I/46</td>
<td>Platen</td>
<td>Robbenplate area, bounded to the east by the Wurster Arm and Tegeler Plate areas, between the Dwarsgat and Tegeler Rinne areas</td>
</tr>
<tr>
<td>I/47</td>
<td>Knechtsand</td>
<td>Kleine Knechtsände, Eversand, Schwarze Grün, Robben-Hohenhörm-Sände, Spiekaer Barre, Neuerker Watt and Kleinwatt areas, and eastern Sahlenburger Watt (tidal flats), between Spieka-Neufeld and Werner Wald, and outer dike at the Arenscher Ufer (shore), with offshore tidal flat areas, bounded by the Wurster Arm and Tegeler Rinne areas, the outer boundary of the national park, the Robbenloch area, the Nordertill</td>
</tr>
<tr>
<td>Area ID</td>
<td>Description</td>
<td>Importance</td>
</tr>
<tr>
<td>---------</td>
<td>--------------</td>
<td>------------</td>
</tr>
<tr>
<td>I/48</td>
<td>Eitzensand</td>
<td>Important section of seal habitat; importing resting, moulting and feeding area for wading and water birds; typical ecosystem with features including coastal tidal flats</td>
</tr>
<tr>
<td>I/49</td>
<td>Duhner Anwachs</td>
<td>Important breeding, resting and feeding area for wading and water birds; important habitat for characteristic animal and plant species</td>
</tr>
<tr>
<td>I/50</td>
<td>Duhner Heide</td>
<td>Important habitat of endangered animal and plant species and their communities; maritime dune areas and Geest-area cliff, with crowberry-coastal heath and scattered transition mires</td>
</tr>
</tbody>
</table>

[Aus Nds. GBBl. Nr. 4/2003, ausgegeben am 7.2.2003]

Article 3

Amendment of the Act on the "Wadden Sea of Lower Saxony" National Park

The Act on the "Wadden Sea of Lower Saxony" National Park of 11 July 2001 (Lower Saxony's Law Gazette (Nds. GVBl.) p. 443) is hereby amended as follows:

1. In Article 16 Sentence 2 and in Article 17 Sentence 2, the reference "Article 19 c of the Federal Nature Conservation Act" shall be replaced with the reference "Article 34 c of Lower Saxony's Nature Conservation Act".
2. In Article 29, a comma and the words "34 b" shall be inserted after the words "28 b".
Annex 18

Act for Amendment of the Act for Protection of the Wadden Sea of Schleswig-Holstein (National Park Act - NPG) of 17 December 1999
Act
for Amendment of the Act for Protection of the Wadden Sea
of Schleswig-Holstein (National Park Act - NPG)
Of 17 December 1999
Gl.-Nr. (classification number): 791-6

Change data: None


Art. 1 Establishment of a National Park

(1) A national park has been established on Schleswig-Holstein's North Sea coast. It is named "Wadden Sea of Schleswig-Holstein" (Schleswig-Holsteinisches Wattenmeer") and comprises an area of about 441,500 ha.

It consists of

1. the Wadden Sea proper, with its tidal flats, gullies and other underwater areas,
2. the area's salt meadows, tidal channels, barrier islands, dunes and sandbanks,
3. the Hallig islands Habel, Norderoog, Süderoog, Südfall, Helmsand and Hamburger Hallig,
4. the supra-tidal sands, surrounded by tidal flats, of Japsand, Norderoogsend, Süderoogsend and Blauort and the island of Trischen,
5. the other small islands that have formed and are forming in the area, and
6. the North Sea, to the western boundary of the national park.

(2) The national park fulfils

Art. 2
Protection purpose and other purposes

(1) The national park serves the purpose of the protection and natural development of the Wadden Sea of Schleswig-Holstein and of the conservation of its special characteristics, beauty and natural condition. Natural processes shall be permitted to take place as unimpededly as possible. The national park shall be conserved as a habitat for the plant and animal species that occur in it naturally, as well as for the relationships occurring between such species and their habitats. Nature in its entirety, including its natural development, and including all plants, animals and ecosystems, has a value in and of itself and must be protected as such.

(2) Measures of coastal protection, including foreland protection and foreland reclamation, and of drainage of inland areas, shall not be restricted. Where the needs of coastal protection dictate, grazing of sheep, and removal of clay and sand, shall continue to be permitted.

(3) Unreasonable impairments of the interests and traditional uses of the local population shall be avoided. All usage interests shall be fairly balanced with the protection purpose in general, and shall be fairly balanced in individual cases. By having a positive impact on tourism and the region's image, nature conservation, via the national park, should promote sustainable development in the interest of improving the living and working conditions of the people who live in the general area.

(4) The provisions of the Land (state) water act and of the Land (state) nature conservation act shall not be affected, except insofar as Art. 11 (1) mandates a transitional provision.

Art. 3
Boundaries of the national park

(1) The boundaries of the national park shall be formed by

1. To the north: the German-Danish border,

2. To the east: a line 150 m distant from the seaward edge of the crown of the dike along the mainland coast, from the mean high-tide water line in the case of Geest-area slopes and from the dune base in the case of dunes; of the coast of Sankt Peter - Ording, to the north, from the boundary of the "Wadden Sea of North Friesland" ("Nordfriesisches Wattenmeer") nature conservation area (GVOBl. (Law Gazette) 1982, p. 198), in a westerly direction along the seaward boundary of the strip protecting the dike, to the Strandweg/Köhbrand area; parking areas and areas with structures shall be excepted; between the Strandweg/Köhbrand area and the bathing-area breakwater, on the seaward side of Hitzlöperweg; between the bathing-area breakwater and the Böhl lighthouse (Böhler Leuchtturm), on the seaward boundary of the strip protecting the dike; the parking area at the south passage area (Überfahrt Süd) shall be excluded; in the area of the planned reinforcement, pursuant to the General Plan for dike reinforcement, dike shortening and coastal protection, of the state protection dike (Landesschutzdeich), south-east of the Böhl lighthouse, on the seaward side of the relevant required salt-meadow area; in the south, to the property boundary of the municipality of Sankt Peter - Ording, beginning at the seaward boundary of the strip protecting the dike;

3. to the south: the northern tidal-flat edge of the main navigation channel of the Elbe River, and of the Medemrinne and Neufelder Rinne waterways, and of their connecting lines,

4. to the west: from the intersection of the northern boundary line of the German Wadden Sea with the 12-sea-mile boundary in a southerly direction to 54°30' N latitude; from there, in a north-easterly direction to 54°35'04" N latitude; from there, in an easterly direction to the 3-sea-mile boundary beginning at the baseline at 54° 35' 04" N latitude; from there, in a southerly direction, following the 3-sea-mile boundary,

5. around the North Frisian islands Sylt, Amrum, Föhr and Pellworm and the Hallig islands Oland, Langeneß, Gröde, Hooge and Nordstrandischmoor, a line at a distance of 150 m, on the seaward
side, from the seaward edge of the dike crown; in the case of undiked stretches of shoreline, 150 m, on the seaward side, from the embankment base of revetments, or from the dune base, or from the cut edge or from the mean high-tide water line, depending on which is present; in the case of the west beaches of the islands Sylt and Amrum, the boundary of the national park shall run 150 m to the seaward side of the mean high-tide water line.

(2) In derogation of Paragraph 1, the territory of the national park shall not include the embankments leading to the islands and the Hallig islands, as well as 150 m wide strips on either side of such embankments, nor shall it include the harbours and harbour infrastructure and those harbour access ways bounded, either on one or both sides, by guard embankments or jetties.

(3) In the case of tributary water bodies, with the exception of the Elbe River, their seaward boundaries shall apply.

(4) The overview map attached to this Act shows the territory of the national park outlined in black.

(5) The precise boundaries of the national park are shown on maps of the Federal Authority for Maritime Shipping and Hydrography (BSH), drawn to a scale of 1:150,000, or of 1:50,000 and, for the Elbe River estuary, to a scale of 1:30,000, with a red boundary line. Such maps are part of this Act. Copies of the maps are archived by the Ministry for Environment, Nature and Forestry (Ministerium für Umwelt, Natur und Forsten; Ministry) in Kiel, the State office for the "Wadden Sea of Schleswig-Holstein National Park" (Nationalpark "Schleswig-Holsteinisches Wattenmeer" (national park office)) in Tönning, by the district administrators of the North Frisia districts in Husum and Dithmarschen in Heide, and by the landscape offices of Sylt, Amrum, Föhr-Land and Pellworm. The maps may be inspected during business hours.

(6) If the boundary features pursuant to Paragraph 1 change with respect to what is shown in the maps, the changed boundary features shall be the standard. The ministry, acting in agreement with the responsible boards of trustees, may adjust, by ordinance, the entries in the maps pursuant to Paragraph 5 Sentence 1 in order to bring them into line with changes in the national park's boundary features. Art. 53 (1) and (7) of the Land (state) nature conservation act shall apply mutatis mutandis.

Art. 4
Protection zones

The national park shall be divided into two protection zones; these are shown in the maps as protection zone 1 and protection zone 2. Protection zone 1 includes a zero-use area. The locations of the navigation channels shown in the maps pursuant to Art. 3 (5) shall be based on the official sea charts; these navigation channels, with the exception of the navigation channel located within the zero-use area, are not part of protection zone 1. For the areas of the Klotzenloch navigation channel, Flackstrom navigation channel and the navigation channel in the Wesselburener Loch area, agreements are to be reached regarding voluntary usage restrictions, for the period 1 July to 15 September of each year, for the protection of birds moulting in those areas. If the necessary protection for moulting birds cannot be achieved, via such voluntary agreements, by 31 December 2003, the ministry shall be authorised to specify the details of necessary protection measures via an ordinance issued in agreement with the Ministry for rural areas, agriculture, food and tourism (Ministerium für ländliche Räume, Landwirtschaft, Ernährung und Tourismus) and with the responsible board of trustees. The other areas, including the whale-conservation area (Art. 5 (4)) shall be protection zone 2. The boundaries of the protection zones are shown in the maps pursuant to Art. 3 (5). Art. 3 (6) shall apply mutatis mutandis.
Art. 5
Protection provisions

(1) In the national park, all actions, apart from expressly permitted measures and uses, are prohibited that could destroy, damage, change or lastingly disturb the protected area or its components. In particular, it shall not be permitted

1. to carry out interventions within the meaning of Art. 7 (1) of the state nature conservation act, or to carry out blasting or drilling,
2. to destroy or change animals' habitats and places of refuge, or plants' locations, to remove plants or parts of plants, to introduce plant species that are not native to the area, or to release animals of species that do not have habitats in the national park,
3. to pursue or trap wild animals, to disturb wild animals with noise or by other means, to injure or kill wild animals, or to damage or take possession of wild animals or their eggs or other developmental forms, or to permit dogs to run unleashed,
4. to set up tents or other mobile shelters, to store any kinds of things or to set up caravans for purposes of overnight stays,
5. to navigate or ride through the area's land and tidal-flat areas with vehicles of any kind within the meaning of Art. 1 of the Road traffic act (Straßenverkehrsgesetz), or with carriages or bicycles, or with air-cushion or amphibious vehicles,
6. to engage in hunting, with the exception of measures to protect game populations and of coastal protection measures,
7. to collect common cockles and razor clams; in addition, it shall not be permitted to collect other mussels without a permit pursuant to Art. 40 (1) of the State fisheries act (Landesfischereigesetz) on the basis of the programme for management of mussel resources,
8. to erect and operate wind power systems.

(2) In addition, it shall not be permitted to enter or navigate through protection zone 1 and those areas of protection zone 2 marked with signs announcing prohibitions. This shall not apply to owners, authorised users and their authorised usage representatives and to persons authorised by the competent authorities. The prohibitions required to achieve the protection purpose pursuant to Sentence 1 in protection zone 2 shall be issued by the national park office, within the framework of written agreements with the affected municipalities. The nature conservation associations serving the area shall be heard. The national park office shall also specify the manner in which prohibitions pursuant to Sentence 1 shall be communicated.

(3) In addition to the protection provisions set forth in paragraphs 1 and 2, all use of resources is prohibited in the zero-use area. The navigation channel may be used only for navigation.

(4) In addition to the protection provisions of Paragraph 1, in the whale-conservation area, it shall be prohibited to disturb whales significantly. Details regarding additional protection provisions shall be specified by ordinance by the Ministry, acting in agreement with the Ministry for rural areas, agriculture, food and tourism and with the responsible board of trustees. Such additional provisions consist of provisions within the meaning of Article 45 (2) of Council Regulation (EC) No. 850/98 of 30 March 1998 for conservation of fishery resources through technical measures for the protection of juveniles of marine organisms (OJ EC L 125 p. 1) and of No. 2.2 of the Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas of 21 March 1992 (Federal Law Gazette II 1993, p. 1114).
Art. 6
Permissible measures and uses, exceptions, exemptions

(1) In the national park, the following actions, in addition to measures and uses pursuant to Art. 2 (2), shall remain permissible:

1. Measures for supply and waste management on the islands and Hallig islands;
2. Measures for preventing hazards that directly threaten human life and health;
3. Fulfilment of legally mandated tasks of federal waterway and shipping administration, and of measures for responding to accidents, including sea rescue and disaster management;
4. Measures for postal and telecommunications services;
5. Protection, management and development measures of the national park office, and long-term monitoring as permitted by the national park office, including research;
6. Use and maintenance of legally constructed structures, tourist facilities, roads and pathways;
7. Navigation with watercraft pursuant to Art. 5 of the Federal Waterway Act (Bundeswasserstraßengesetz), in the version promulgated on 4 November 1998 (Federal Law Gazette I p. 3294), and pursuant to legal provisions issued on the basis of that Act;
8. Clearance, using special equipment, of tidal channels used for drainage of inland areas or for harbour access.

(2) In protection zone 1, the following shall also be permitted, in addition to the measures and uses pursuant to Paragraph 1:

1. Entry into near-coastal tidal flats along the mainland coast, around the islands and the Hallig islands Oland, Langeneß, Gröde, Hooge and Nordstrandischmoor, also for purposes of bathing and of non-commercial fishing, in an area designated by the national park office, in agreement with affected municipalities; apart from definition of this area, routes for walking over tidal flats may also be specified by the national park office, acting on proposals, or by agreement with, the affected communities;
2. Commercial fishing for fish and shrimp, in the existing manner and to the existing extent, except in the zero-use area, and fishing for mussels in the framework of a permit pursuant to Art. 40 (1) and (41) of the State fisheries act (Landesfischereigesetz); fishing shall conform to the national park's protection purpose;
3. Non-commercial fishing outside of the area specified in Number 1, from boats, with the condition that for use of bottom trawl nets (Baumkurren) a permit from the supreme fisheries authority, acting in accordance with the national park office, shall be required;
4. Horseback-riding, travel by carriages and bicycles in the relevant areas designated by the national park office;
5. Walking on stepping stones, by canoeists, in the relevant areas designated by the national park office.

(3) In protection zone 2, the following shall also be permitted, in addition to the measures and uses pursuant to Paragraphs 1 and 2:

1. Fishing, in the existing manner and to the existing extent, for shrimp and fish; in the whale-conservation zone, taking account of Art. 5 (4),
2. Mussel fishing below the mean spring-tide low-water line, in keeping with Arts. 40 and 41 of the State fisheries act (Landesfischereigesetz); within the 3-sea-mile zone, only mussel fishing is permitted, while in the water-mixing zone, use of existing oyster aquaculture facilities shall be permitted,
3. Sand and gravel removal, for supply of the Hallig islands and other islands, in the existing manner and to the existing extent, with the permission of the national park office,
4. Removal of silt, saline spring water and sea water for personal needs and for purposes of spas in tourist facilities in the districts of Nordfriesland and Dithmarschen, in the existing manner and to the existing extent, in a relevant area designated by the national park office; any additional removals are subject to the permission of the national park office,

5. Construction and maintenance of harbours, including the related dumping of dredged material,

6. Drilling for and extraction of oil, solely from the approved Mittelplate A drilling and pumping rig, by agreement with the national park office,

7. Erection of structures for recreational bathing in the area of beaches for which concessions have been granted,

8. The use to which the Kingdom of Denmark is entitled in the area of the northern boundary of protection zone 2.

(4) The national park office may grant exceptions from the protection provisions of Art. 5 (1) Nos. 1, 3 to 5 and (2) Sentence 1, where such action does not entail any significant impairment within the meaning of Art. 5 (1) Sentence 1. Otherwise, Art. 54 of the State nature conservation act (Landesnaturschutzgesetz) shall apply mutatis mutandis. Permission for exceptions granted by the hunting authority pursuant to Art. 5 (1) No. 6 shall be issued by agreement with the national park office.

(5) Where permitted measures and uses entail an impact on, or impairment of, natural assets and the landscape, Arts. 7 to 15 a of the State nature conservation act (Landesnaturschutzgesetz) shall apply. Compensation payments pursuant to Art. 8 b of the State nature conservation act (Landesnaturschutzgesetz) may be used for the purpose of measures to control movements of visitors in order to reduce disturbances in specific areas.

(6) The Ministry, acting in agreement with the responsible boards of trustees, may, by means of ordinances,

1. permit additional measures and uses in protection zone 2, for purposes of recreation, tourism and other economic purposes, and either on a generally or regionally limited basis, where such action is compatible with the protection purpose and does not conflict with other interests of nature conservation and landscape management;

2. specify the extent of measures and uses in cases covered by paragraph 1 No. 6, with regard to roads and pathways, and in cases covered by paragraph 3 Nos. 5 and 7, where the protection purpose necessitates such action.

Art. 7
National park office

(1) The national park office, located in Tönning, is responsible for the national park, as the relevant higher and lower nature conservation authority.

(2) In addition to its competencies under Arts. 45 b and 45 c of the state nature conservation act (Landesnaturschutzgesetz), the national park office shall also be responsible for:

1. informing the public about the national park, conducting educational activities and controlling movements of visitors and recreationers; this shall not affect the activities of private associations without support agreements or of the persons commissioned pursuant to paragraph 3,

2. carrying out and coordinating ecological monitoring, and providing the necessary relevant scientific basis for planning; this shall not affect the activities of the persons commissioned pursuant to paragraph 3,

3. regulating support provided by nature conservation associations within the meaning of Art. 21 d of the state nature conservation act (Landesnaturschutzgesetz) for the national park; in exceptional cases, several different nature conservation associations may be made responsible for the same support area.
(3) The administrative tasks pursuant to paragraph 2 Nos. 1 and 2 may be transferred to a private-law legal entity, with the entity's consent and pursuant to Art. 24 of the state administrative act (Landesverwaltungsgesetz), if such action is in the public interest and if the pertinent legal entity guarantees that it will properly fulfil the tasks so entrusted to it. The Ministry shall be responsible for such transfer of tasks, as well as for relevant revocation. The national park office shall be responsible for relevant supervision. Such supervision shall be confined to supervision limited to the legality of administrative activities, and it shall comprise the right to receive certain information, the right to issue orders, the right of substitution and the appointment of authorised representatives.

**Art. 8**

**Boards of trustees**

(1) One board of trustees (Kuratorium) shall be established, within the national park office, for each of the offshore areas of the Wadden Sea of Schleswig-Holstein belonging to the districts of Nordfriesland and Dithmarschen. The boundary between the areas covered by the boards of trustees shall be the middle of the main navigation channel in the Eider Estuary. Each board of trustees (Kuratorium) shall consist of the following members:

1. The district administrator (Landrat), as the chairperson,
2. Two persons appointed by the district assembly (Kreistag),
3. Five persons from the municipalities whose territories border the national park territory; these persons shall be appointed by the district association (Kreisverband) of the assembly of Schleswig-Holstein municipalities (Gemeindetag), in accordance with the cities belonging to the relevant districts,
4. A representative of the district's water and soil associations, which person shall be appointed by the Marschenverband association of Schleswig-Holstein,
5. The state commissioner for nature conservation,
6. A district commissioner for nature conservation, who shall be appointed by the lower nature conservation authority,
7. Two scientists appointed by the Ministry,
8. A person appointed by the Landesnaturschutzverband e.V. state nature conservation association,
9. One representative each from the sectors of tourism, sports, agriculture, and fishing; these representatives shall be appointed by the Nordseebäderverband Schleswig-Holstein e.V. North Sea resort association, the Kreissportverband e.V. district athletic association and the relevant occupational associations,
10. One representative each for the sectors of industry/commerce and unions; these representatives, who ideally should reside within the relevant district area, shall be appointed by the Ministry,
11. Two representatives of supporting nature conservation associations, to be appointed by the Ministry.

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and the Federal Ministry of Transport, Building and Housing (BMVBW) may each appoint a member to the boards of trustees. A deputy member shall be named, appointed or sent for each regular member. In each case, the members named pursuant to numbers 2, 7, 10 and 11 should consist of one man and one woman. Of the five persons named pursuant to number 3, at least two should be women. In each case, of the four persons to be named pursuant to number 9, two should be men and two should be women. Where only one person may be appointed and sent, women and men should alternate in the position. Similar provisions apply to all deputies.

(2) The Ministry may, by means of ordinances, specify the details pertaining to appointments, period of office and compensation for members of the board of trustees, as well as to the basic aspects of the rules of procedure.
(3) In addition to participating in issue of ordinances pursuant to Art. 3 (6), Art. 4, Art. 5 (4) und Art. 6 (6), the boards of trustees shall advise the national park office. The national park office shall take decisions regarding basic issues and long-term planning in agreement with the boards of trustees. Where agreement cannot be reached, the Ministry shall decide.

**Art. 9**

Compensation, offsets for hardships

Arts. 42 and 43 of the Land (state) nature conservation act shall apply mutatis mutandis. The Land (state) shall be responsible for making relevant compensation payments.

**Art. 10**

Administrative offences

(1) Anyone shall be deemed to have committed an administrative offence who, either intentionally or negligently,

1. in contravention of Art. 5 (1) Sentence 2 No. 1, carries out interventions within the meaning of Art. 7 of the state nature conservation act (Landesnaturschutzgesetz), or who carries out blasting or drilling,
2. in contravention of Art. 5 (1) Sentence 2 No. 2, destroys or changes habitats and places of refuge of animals, or locations of plants, or who removes plants or parts of plants or introduces non-native species, or who releases animals of species that do not have habitats in the national park,
3. in contravention of Art. 5 (1) Sentence 2 No. 3 pursues or traps wild animals, disturbs wild animals with noise or by other means, injures or kills wild animals, damages or takes possession of their eggs or other developmental forms, or permits dogs to run unleashed,
4. in contravention of Art. 5 (1) Sentence 2 No. 4, sets up tents or other mobile shelters, or stores things of any kind, or sets up caravans for purposes of overnight stays,
5. in contravention of Art. 5 (1) Sentence 2 No. 5, travels or rides over land or tidal-flat areas in vehicles of any kind within the meaning of Art. 1 of the Road traffic act (Straßenverkehrsgesetz) or in or with carriages, bicycles, hovercraft or amphibious vehicles, or rides on horseback, without proper authorisation, on land or tidal-flat areas,
6. in contravention of Art. 5 (1) Sentence 2 No. 6, engages in hunting,
7. in contravention of Art. 5 (1) Sentence 2 No. 7, fishes for mussels without a permit,
8. in contravention of Art. 5 (1) Sentence 2 No. 8, erects or operates wind power systems,
9. in contravention of Art. 5 (2) Sentence 1, enters or travels through protection zone 1 outside of designated areas, or enters or travels through areas of protection zone 2 marked with signs announcing that such entry or travel is prohibited,
10. in contravention of Art. 5 (3), uses resources within the zero-use area.

(2) In cases relative to

1. Paragraph 1 Nos. 1 and 7, administrative offences shall be punishable by a fine of up to one hundred thousand deutschmarks,
2. Paragraph 1 Nos. 2 to 6, and 8 to 10, administrative offences shall be punishable by a fine of up to ten thousand deutschmarks.

(3) Art. 57 (2) und Art. 57 a (1) No. 2 und (2) of the State nature conservation act (Landesnaturschutzgesetz) shall apply mutatis mutandis.
Art. 11
Transition arrangements, entry into force, expiry

(1) Leasing agreements for grazing of foreland area shall be renewed, for the existing relevant procedures and to the existing extent, as long as the leasing farms depend on the relevant areas economically.

(2) This Act shall enter into force on the day after it is promulgated.

(3) Upon the entry into force of this Act, the following ordinances shall expire:

1. State ordinance on the "Vogelfreistätte Hallig Norderoog" nature conservation area, in the Hooge municipal district, Nordfriesland district, of 1 July 1939 (Government law gazette (Reg. Amtsbl.) p. 208), last amended by ordinance of 24 October 1996 (Law Gazette of Schleswig-Holstein (GVOBl. Schl.-H.) p. 652),


Annex 19

List of regional or sectoral management systems
List of regional or sectoral management systems

A) Germany

Order on the navigation in federal waterways in the National Parks in the area of the North Sea, 1997.
(Verordnung über das Befahren der Bundeswasserstraßen in Nationalparks im Bereich der Nordsee (NPNordSbefV), 1997)

A1) Niedersachsen


(Bewirtschaftungsplan Miesmuschelfischerei im Nationalpark Niedersächsisches Wattenmeer, Niedersächsisches Ministerium für den ländlichen Raum, Ernährung, Landwirtschaft und Verbraucherschutz, Niedersächsisches Umweltministerium, 2004).

Management plan of the foreshore area of the Norderland Region, Buscherheller / Leybucht to Münstersommerpolder, 2003.
(Vorlandmanagementplan Norderland, Buscherheller / Leybucht bis Münstersommerpolder, 2003).


Conception for education, information and public relation work in the National Park “Niedersächsisches Wattenmeer”, 1990.
(Leitbild für die Bildungs-, Informations- und Öffentlichkeitsarbeit im Nationalpark Niedersächsisches Wattenmeer, 1990).
A2) Schleswig-Holstein

General administrative Regulation: Allowance of exemptions according to the National Park Act, Official journal of the Schleswig-Holstein government, 2004, p 800.

Decree on the Boards of Trustees at the National Park Authority for the “National Park Schleswig-Holsteinisches Wattenmeer” in the version of July 1997.

Common guidelines for the daily work of the National Park administration, 2003.
(Gemeinsame Leitsätze für die tägliche Arbeit der Nationalparkverwaltung, 2003).

Programme on the cultivation of mussel resources within the National Park “Schleswig-Holsteinisches Wattenmeer” according to § 40 of state fishery law in the version of July 4th 2006.

Voluntary agreement on the protection of moulting Shelducks with commercial (2003) and non commercial (1999) shrimp fishermen according to § 4 (4) National Park Act.

(Vorlandmanagementkonzept (VMK) in Schleswig-Holstein – Fortschreibung 2007).

Covenant with municipalities on entering the National Park in near-shore areas [of zone 1] according to § 6 National Park Act (“1000-meter-agreements”), 2004.
(Vereinbarungen mit den Gemeinden zum Betreten des Nationalparks im küstennahen Bereich nach § 6 Nationalparkgesetz („1000-Meter-Vereinbarungen“), 2004).

Contract between the state of Schleswig-Holstein and the municipality of St. Peter-Ording on the future development in the beach areas of St. Peter-Ording including utilisation of the beaches in the version of October 2006.

(Entwicklungskonzept Hamburger Hallig, 1991; Inhaltliche Eckpunkte eines Nutzungskonzeptes für die Hamburger Hallig, 2000).

Concept on recreational use, visitor information and environmental education at Westerhever Foreland and within the National Park (Framework-concept Westerhever), 2004.
(Konzept zur touristischen Nutzung, Besucherinformation und Umweltbildung im Westerhever Vorland und im Nationalpark (Rahmenkonzept Westerhever), 2004).

Framework-concept on environmental education in the National Park region, 2006.
(Rahmenkonzept für die Bildungsarbeit in der Nationalpark-Region, Juni 2006).
Concept of the pedagogic centre national park (PZN), 2007.
(Konzept des Pädagogischen Zentrums Nationalpark (PZN), Januar 2007).

Concept on the cooperation of information centres in the National Park region (Information concept), 2005.
(Konzept zur Zusammenarbeit der Informationszentren in der Nationalpark-Region (Infozentrums-Konzept), Juni 2005).

B) The Netherlands

General
- Key Planning Decision Wadden Sea, 2007 (3rd Policy Document Wadden Sea) (pkb Derde Nota Waddenzee) (see annex xxx)
- Spatial Planning Act (Wet op de ruimtelijke ordening)
- Act on the Wadden Sea Council (Wet op de Raad voor de Wadden)
- Environmental Management Act (Wet Milieubeheer)
- Environmental Impact Assessment Decree 1994 (Besluit M.e.r.1994).
- Calamities and Heavy Accidents Act (Wet Rampen en zware ongevallen)
- Public Works and Water Management Act 1900 (Waterstaatswet)
- Water Management Act 1989 (Wet op de waterhuishouding)
- Co-ordination Plan Calamity Control Wadden Sea (Coördinatieplan Rampenbestrijding Waddenzee)
- Monuments and Archaeological Sites Act (Monumentenwet)

- Dutch Management Plan Wadden Sea (Beheersplan Waddenzee)
- Enforcement Programme Wadden Sea 2007 (each year a new enforcement programme is issued) (Handhavingsprogramma 2007)

- Inter Provinical Policy Plan (IBW) (Interprovinciaal Beleidsplan)
- Policy Plan of De Waddeneilanden Council 2006 – 2010 (Beleidsplan van het samenwerkingsverband De Waddeneilanden)
- Zoning Plans of the Province of Noord-Holland (Streekplan provincie Noord-Holland)
- Zoning Plan of the Province of Fryslân (Streekplan provincie Fryslân)
- Zoning Plan of he Province of Groningen (Streekplan provincie Groningen)
- Environmental Regulations and Environmental Impact Assessments of the Provinces Noord-Holland, Fryslân and Groningen (Provinciale milieuverordeningen en Milieu Effect Rapportages Waddenzee)
- Zoning Plan of the Wadden Sea Municipalities (Bestemmingsplannen van de afzonderlijke Waddenzeegemeenten)
- General Police Regulations of the Wadden Sea Municipalities (Gemeentelijke Algemene Politie Verordeningen)
- Municipal Regulations Wadden Sea Area (Gemeentelijke Verordening Waddenzeegebied)

- Management Plan Duinen van Texel (Beheer- en Inrichtingsplan Nationaal Park Duinen van Texel, 2000)

- Wadden Sea Management and Development Plan (in preparation at the moment of nomination) (Beheer- en Ontwikkelplan)
- Wadden Sea Managementplan Natura 2000 (in preparation at the moment of nomination) (Beheerplannen N2000)

- Tidal Flat Walking Covenant (Conventant Wadlopen)
- Code of Conduct 'Wad I Love You' (Gedragscode “Wad ik hou van jou”)
- Covenant Recreational Boating (Conventant Vaarrecreatie)
Annex 20

Regional declarations supporting the nomination
Regional declarations supporting the nomination

A) Resolution of the Regional Wadden Sea Board The Netherlands

Ms G. Verburg  
Minister of Agriculture, Nature and Food Quality  
Postbus 20401  
2500 EK The Hague

5 December 2007

Re: Nomination of the Wadden Sea as World Heritage Site

Dear Minister Verburg,

On behalf of the regional Wadden Sea board I would like to inform you of the results of the recent regional consultation on the nomination of the Wadden Sea as World Heritage Site. The local and provincial governments involved were asked to agree to:

- the nomination of the Wadden Sea as World Heritage Site on the basis of the proposed nomination dossier;
- the signing of the Wadden Sea World Heritage site covenant by the representatives of the government bodies named in the covenant.

I am very pleased to inform you that all the local and provincial government bodies located on the Wadden Sea have agreed to both the nomination and the signing of the covenant. This fine achievement, in which the Wadden Sea focus group established by you played an inspirational role, means that the conditions placed on the nomination by the Dutch House of Representatives of the States General have been fully met. UNESCO also requires that nomination is based on adequate support in the region.

This result reflects the support for the nomination in the region. It also illustrates that the region sees opportunities in gaining World Heritage Status and is willing to continue to use the area wisely.

Yours sincerely,

E.H.T.M. Nijpels  
Chair  
Regional Wadden Sea Board

Minister of Education, Cultural Affairs and Science  
Chair Central Committee on the Wadden Sea, Minister of Housing, Spatial Planning and the Environment
B) Resolution of the National Park Advisory Board of 14 November 2002

The Advisory Board supports the nomination to UNESCO of National Park “Lower Saxon Wadden Sea” (*Niedersächsisches Wattenmeer*) as a world heritage site.

The Advisory Board

- regards this measure as a recognition for the efforts made towards the protection of the Wadden Sea, efforts that find their legal expression in the National Park Act of Lower Saxony (*Niedersächsisches Nationalparkgesetz*) and
- hopes that new impetus will thereby be given to the development of the Wadden Sea Region.

The current status of protection and development is to be maintained on principle. The nomination as a world heritage site will not result in new or additional regulations being issued.

UNESCO does not represent an additional level of administration that is to be consulted in connection with plans and measures concerning the National Park. A recognition of the above National Park as a world heritage site will not affect the planning jurisdiction of the *Land* of Lower Saxony.

The National Park Act, with the instruments it has at its disposal, is able to capture and deal with natural developments and the solution of conflicts that may arise between conservation and human use.

The Advisory Board requests the Parliament of Lower Saxony (*Niedersächsischer Landtag*) to clarify the issues listed below in the form of a resolution to the effect that

- the nomination of the Wadden Sea to UNESCO as a world heritage site will take place in coordination with the countries of the Trilateral Wadden Sea Cooperation (Denmark, the Netherlands, Germany),
- the object of nomination in Lower Saxony will be National Park “Lower Saxon Wadden Sea” (*Niedersächsisches Wattenmeer*),
- recognition of the above as a world heritage site by UNESCO will not subject National Park “Lower Saxon Wadden Sea” (*Niedersächsisches Wattenmeer*) to additional control.
C) **Agreement on the participation of the counties of Dithmarschen and Nordfriesland in the nomination process of the Wadden Sea as a World Heritage Site**

between

the counties of Nordfriesland and Dithmarschen as regional representatives

and

the Minister of Agriculture, Environment and Rural Areas of the State of Schleswig-Holstein

**Preamble**

The following agreement shall, as binding fundament, regulate under which framework requirements a trilateral application to the UNESCO for the nomination of the National Park Wadden Sea as a World Heritage Site should be aimed at.

The signatories are in total agreement that the nomination of the Wadden Sea as World Heritage Site is to be regarded as fundamentally positive and an enhancement to the prestige of the region.

In order to take account of existing concerns and reservations in the region, the signatories agree to the following preconditions and corner points as a binding basis of agreement, from which regional approval to the nomination of the Wadden Sea as an UNESCO World Heritage Site will result.

**Agreement**

1. The application for nomination of the Wadden Sea as a World Heritage Site is to be confined to the area within the boundaries of the National Park (NPG 1999)

2. No buffer zone will be applied for. The Ministry of Agriculture, Environment and Rural Areas of Schleswig-Holstein ensures that if UNESCO should request a buffer zone this will not be met.

3. Use of the area is to comply with the regulations contained in the National Park Act. Nomination as a World Heritage Site is a distinction, which entails no changes to the current legal position. This means that no additional independent restrictions on land and marine use over and above existing laws (in particular the National Park Act and the State Nature Protection Act) will result from the status of a World Heritage Site for the National Park. In particular, measures for coastal protection, port development, maintenance or provision of ferry services independent of tidal conditions, traditional land usage and tourist developments which conform to current legislation may not be restricted as a result of the nomination of the area as a World Heritage Site.

4. To implement any changes wished for by UNESCO, either before or after the application is made, the understanding by both the Nordfriesland and Dithmarschen county councils and the neighbouring communities is necessary.

5. A Coordinating Group is to be set up, consisting of representatives of all signatories. This group, which will combine local and specialist interests, is to enact jointly on all matters in connection with the Schleswig-Holstein Wadden Sea as World Heritage Site. Therewith it is to provide the basis for further action.
6. The responsibilities for reporting to the UNESCO resulting from the nomination as World Heritage Site will be met by the state and federal authorities (and in the case of trilateral matters together with Denmark and the Netherlands by the Common Wadden Sea Secretariat) in consultation with the Coordinating Group. No additional costs arising from the reporting responsibilities, e.g. for additional monitoring or preparation of reports, above and beyond those included in the consultation, will be due from the communal side.

7. Use of the World Heritage distinction is governed by the UNESCO guidelines. The marketing is lead-managed by the Coordinating Group which, with the participation of the regional business associations and in particular the regional tourist marketing organisations and the National Park Authority, will designate a central point of contact for all marketing matters.

8. The signatories commit themselves jointly to the protection of the World Heritage Site from external threats and dangers (e.g. improvement of shipping safety, reduction of marine pollution by harmful substances and discharge of oil).

By this agreement, the Ministry of Agriculture, Environment and Rural Areas ensures that these preconditions will be met when applying for the nomination of the Schleswig-Holstein Wadden Sea as World Heritage Site.

Agreed by
The county councils of Nordfriesland and Dithmarschen
The State Government and State Parliament of Schleswig-Holstein
Appendix to the Agreement on the participation of the counties of Dithmarschen and Nordfriesland in the nomination of the Wadden Sea as a World Heritage Site

This appendix clarifies and defines the usages mentioned in paragraph 3. of the Agreement, exemplarily named in consultation with neighbouring communities, which are permissible and remain so in conformity with the regulations of the National Park Act (NPG), the State Nature Protection Act (LNatSchG), the State Water Act (LWG) and other legal source or voluntary agreements or contracts under public law. Their continuity is not affected by the nomination of the Wadden Sea as World Heritage Site.

- Coastal defence measures, including the conservation and proliferation of saltmarshes and the drainage of inland areas, are not to be restricted. The grazing of salt-marshes and the extraction of clay and sand are permitted if they are necessary for coastal defence purposes.
- Measures for supply and waste management on the islands and Hallig islands are not to be restricted.
- The World Heritage status will not impose restrictions on the measures necessary in harbours and for harbour access to ensure the maintenance of a ferry service independent of tidal conditions, or on clearance, using special equipment, of tidal channels used for drainage of inland areas.
- The application for nomination as a World Heritage Site is not to restrict tourist use and activities in the National Park and the adjacent mainland coast, or the islands of Sylt, Amrum, Föhr, Pellworm and Nordstrand and the Hallig islands. This applies i.a. to:
  - the use and maintenance of legally constructed structures, tourist facilities, roads and pathways and
  - leisure and recreational activities such as bathing, mudflat walking, surfing, riding and horse carriage excursions (e.g. Nordstrand – Südfall) in the respective permissible fashion and in and on the designated areas, tracks and paths including the so-called 1,000 m agreements with the neighbouring communities.

Future tourism developments, insofar as they comply with current legislation, remain explicitly possible.

- The use of the beaches in St. Peter-Ording, including tourism development measures based on the public law contract between the municipality and the state of Schleswig-Holstein and the authorisation for special use of the sea coast, or other agreements between the municipality and the National Park Authority in the respective valid version, will not be restricted. This also applies beyond the current period of validity of the public law contract.
- The agreed aims and planned measures for the respective region contained in the development concept for the Hamburger Hallig or the framework concept for Westerhever including the development opportunities arising from these concepts will not be restricted.
Annex 23

Image inventory list
Annex 23

Image inventory list

<table>
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<tr>
<th>No of photo</th>
<th>Form</th>
<th>Caption</th>
<th>Date of photo (month/year)</th>
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<th>Copyright owner (Abbreviation see below)</th>
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<td>Blue jellyfish (<em>Rhizostoma octopus</em>) stranded at a beach of the east frisian islands.</td>
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<td>Lion’s Mane Jellyfish <em>Cyanea capillata</em> washed ashore at &quot;Vogelsand&quot;-Sandbank.</td>
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<td>Whiteweed (<em>Sertularella cupressia</em>) fixed to a blue mussel bed (<em>Mytilus edulis</em>).</td>
<td>06/1990</td>
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<td>Juvenile plumose anemone (<em>Metridium senile</em>) living in the gullies and on the mussel beds of the flats.</td>
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<td>Common hermit crab (<em>Pagurus bernhardus</em>) carrying a hydrozoan colony of <em>Hydractinia echinata</em> on its astropod &quot;home&quot;-shell.</td>
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<td>020</td>
<td>jpg</td>
<td>The dahlia anemone (<em>Urticina felina</em>) living on the sublittoral mussel beds of the Wadden Sea (photograph from Aquarium).</td>
<td>2006</td>
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<td>Lugworm (<em>Arenicola marina</em>) – most typical to the Wadden Sea flats.</td>
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<td>022</td>
<td>jpg</td>
<td>Lugworm’s trace on the surface of a mudflat.</td>
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<td>KK</td>
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<td>jpg</td>
<td>The King Rag (<em>Nereis virens</em>) represents the largest of the worm species living in the sediment of the tidal flats.</td>
<td>1990</td>
<td>KJ</td>
<td>KJ</td>
<td>KJ</td>
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<td>025</td>
<td>jpg</td>
<td>Tubes of the polychaete worm <em>Pygospio elegans</em> washed out of the sediment by the tides.</td>
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<td>026</td>
<td>jpg</td>
<td>Tubes of the polychaete <em>Spirorbis spirorbis</em> to the toothed wrack (<em>Fucus serratus</em>) on the mussel beds.</td>
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<td>Tubes of the polychaete <em>Lanice conchilega</em></td>
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<td>028</td>
<td>jpg</td>
<td>Common periwinkles (<em>Littorina littorea</em>) live both on the flats an the mussel beds in the Wadden Sea.</td>
<td>07/2002</td>
<td>CS</td>
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<td>029</td>
<td>jpg</td>
<td>Common periwinkles climb up a wooden pile.</td>
<td>07/1992</td>
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<td>KJ</td>
<td>KJ</td>
<td>yes</td>
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<td>030</td>
<td>jpg</td>
<td>The mudsnail or Laver Spire shell (<em>Hydrobia ulvae</em>) can be washed ashore in millions after heavy storms and currents.</td>
<td>06/1995</td>
<td>KJ</td>
<td>KJ</td>
<td>KJ</td>
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<td>031</td>
<td>jpg</td>
<td>Traces of mudsnails (<em>Hydrobia ulvae</em>) on the surface of a mudflat.</td>
<td>06/1995</td>
<td>KJ</td>
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<td>032</td>
<td>jpg</td>
<td>The largest of all mussel species in the Wadden Sea flats is the sand gaper (<em>Mya arenaria</em>) with its long syphon tubes.</td>
<td>unknown</td>
<td>KJ</td>
<td>KJ</td>
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<td>033</td>
<td>jpg</td>
<td>Sand gapers (<em>Mya arenaria</em>) are washed out and away by the strong currents of a gully.</td>
<td>07/2005</td>
<td>KJ</td>
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| Image | Description | Date | Photographer | Editor | Credit | Visible?
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| 034 jpg | The peppery furrow shell (*Scrobicularia plana*) lives in the muddy sediments of the Wadden Sea | unknown | KJ | KJ | KJ | yes
| 035 jpg | The shells of the American razor mussel (*Ensis americanus*) are often washed ashore in thousands. | 06/2005 | KJ | KJ | KJ | yes
| 036 jpg | The American razor mussel (*Ensis americanus*) has been sighted in the Wadden Sea only since the late 1970ies | 06/2005 | KJ | KJ | KJ | yes
| 037 jpg | The pacific oyster (*Cassostrea gigas*) has only established itself during the last decade in the | unknown | MS | MS | MS | yes
| 038 jpg | A kaleidoscope of seashells | unknown | MS | MS | MS | yes
| 039 jpg | Barnacles in the intertidal (*Semibalanus balanoides*) | unknown | CS | CS | CS | yes
| 040 jpg | Brown shrimp (*Cragon cragon*) | unknown | KJ | KJ | KJ | yes
| 041 jpg | All over the flats: the green shore crab (*Carcinus maenas*) is the most common crab in the Wadden Sea | unknown | KJ | KJ | KJ | yes
| 042 jpg | Corophium volutator | unknown | KJ | KJ | KJ | yes
| 043 jpg | The chinese whool crab (*Eriocheir sinensis*) came around the globe with the ships in the 20th century | 1990 | KJ | KJ | KJ | yes
| 044 jpg | Little green sea urchin (*Psammechinus miliaris*) | 1995 | KJ | KJ | KJ | yes
| 045 jpg | Common Starfish (*Asterias rubens*) | 1986 | KJ | KJ | KJ | yes
| 046 jpg | A Starfish “embraces” a blue mussel | 08/2002 | KJ | KJ | KJ | yes
| 047 jpg | An armada of starfishes invades a blue mussel bed | 06/2005 | CS | CS | CS | yes
| 048 jpg | Turbot (*Scophthalmus maximus*) (Aquarium) | 08/2007 | IZ | IZ | IZ | yes
| 049 jpg | Plaice (*Pleuronectes platessa*) (Aquarium) | 08/2007 | IZ | IZ | IZ | yes
| 050 jpg | Three spinned stickleback (*Gasterosteus aculeatus*) in the seagrass beds (Aquarium) | 05/2006 | IZ | IZ | IZ | yes

**Birds**

| Image | Description | Date | Photographer | Editor | Credit | Visible?
|-------|-------------|------|--------------|--------|--------|----------|
| 051 jpg | Ground breeding cormorant | 08/2006 | KJ | KJ | KJ | yes
| 052 jpg | Ground nest of a cormorant | 08/2006 | KJ | KJ | KJ | yes
| 053 jpg | Ground Breeding Cormorant Colony | 06/2000 | KJ | KJ | KJ | yes
| 054 jpg | Spoonbills | 05/2007 | JK | JK | JK | yes
| 055 jpg | Barnacle Geese | 04/2007 | KE | KE | KE | yes
| 056 jpg | Barnacle Geese | unknown | MS | MS | MS | yes
| 057 jpg | Barnacle Geese | 11/2007 | MS | MS | MS | yes
| 058 jpg | Barnacle Geese | 07/2006 | KK | KK | KK | yes
| 059 jpg | Resting Brent Geese | 04/2007 | KE | KE | KE | yes
| 060 jpg | Grazing Brent Geese | 07/2006 | KK | KK | KK | yes
| 061 jpg | Pair of Brent Goose | 11/2007 | MS | MS | MS | yes
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**IMPRESSIONS**

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**MAN AND WADDEN SEA**

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| 330 | jpg | Sigh of the National Park | 09/2006 | KJ | KJ | KJ | yes |
| 331 | jpg | Shrimp fishery | 2006 | KK | KK | KK | yes |
| 332 | jpg | Charter boat | 07/2005 | KK | KK | KK | yes |
| 333 | jpg | Island ferry | 07/2007 | KK | KK | KK | yes |
| 334 | jpg | Horse trail | 2006 | JK | JK | JK | yes |
| 335 | jpg | Land reclamation | 03/2007 | JH | JH | JH | yes |
| 336 | jpg | Shrimp fishery | 2006 | KK | KK | KK | yes |
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| 338 | jpg | Charter boat | 07/2005 | KK | KK | KK | yes |
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| 340 | jpg | Sailing boats | 07/2005 | KK | KK | KK | yes |
| 341 | jpg | Boat on tidal flats and man walking | 07/2005 | KK | KK | KK | yes |
| 342 | jpg | Boat on tidal flats | 07/2005 | KK | KK | KK | yes |
| 343 | jpg | Hallig Habel | 04/2005 | MS | MS | MS | yes |
| 344 | jpg | Fish traps | 09/2007 | MS | MS | MS | yes |
| 345 | jpg | Sheep grazing | 09/2005 | MS | MS | MS | yes |
| 346 | jpg | House on the Hamburger Hallig | 04/2005 | MS | MS | MS | yes |
| 347 | jpg | Lighthouse Westerhever | 04/2005 | MS | MS | MS | yes |
| 348 | jpg | Storm around the Halligen | 01/2007 | MS | MS | MS | yes |
| 349 | jpg | Winter storm at coast line | 01/2007 | MS | MS | MS | yes |
| 350 | jpg | Rolling waves can cause erosion | 03/2007 | MS | MS | MS | yes |
| 351 | jpg | Waves at Hallig | 03/2007 | MS | MS | MS | yes |
| 352 | jpg | Tourist group on mud flats | 06/2005 | MS | MS | MS | yes |
| 353 | jpg | Tourists on discovery tour | 06/2005 | MS | MS | MS | yes |
| 354 | jpg | Group of people on mud flats at rising tide | 06/2005 | MS | MS | MS | yes |
| 355 | jpg | Group of rangers | 11/2003 | MS | MS | MS | yes |
| 356 | jpg | Rangers watching birds | 11/2003 | MS | MS | MS | yes |</p>
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