

World Heritage Sites

Protected Areas and World Heritage



THE WADDEN SEA GERMANY & THE NETHERLANDS

The Wadden Sea is the largest unbroken system of intertidal sand and mud flats in the world, with natural processes undisturbed throughout most of the area. It encompasses a multitude of transitional zones between land, the sea and freshwater environment, and is rich in species specially adapted to the demanding environmental conditions. It is considered one of the most important areas for migratory birds in the world, and is connected to a network of other key sites for migratory birds. Its importance is not only in the context of the East Atlantic Flyway but also in the critical role it plays in the conservation of African-Eurasian migratory waterbirds. In the Wadden Sea up to 6.1 million birds can be present at the same time, and an average of 10-12 million pass through it each year.

COUNTRY

Germany and the Netherlands

NAME

The Wadden Sea

NATURAL WORLD HERITAGE SERIAL SITE

2009: Inscribed on the World Heritage List under natural criteria viii, ix and x.

2011: Extended under the same criteria.

STATEMENT OF OUTSTANDING UNIVERSAL VALUE

The UNESCO World Heritage Committee issued the following Statement of Outstanding Universal Value at the time of inscription:

Brief Synthesis

The Wadden Sea is the largest unbroken system of intertidal sand and mud flats in the world, with natural processes undisturbed throughout most of the area. It encompasses a multitude of transitional zones between land, the sea and freshwater environment, and is rich in species specially adapted to the demanding environmental conditions. It is considered one of the most important areas for migratory birds in the world, and is connected to a network of other key sites for migratory birds. Its importance is not only in the context of the East Atlantic Flyway but also in the critical role it plays in the conservation of African-Eurasian migratory waterbirds. In the Wadden Sea up to 6.1 million birds can be present at the same time, and an average of 10-12 million pass through it each year.

Criterion (viii): The Wadden Sea is a depositional coastline of unparalleled scale and diversity. It is distinctive in being almost entirely a tidal flat and barrier system with only minor river influences, and an outstanding example of the large-scale development of an intricate and complex temperate-climate sandy barrier coast under conditions of rising sea-level. Highly dynamic natural processes are uninterrupted across the vast majority of the property, creating a variety of different barrier islands, channels, flats, gullies, saltmarshes and other coastal and sedimentary features. It is also one of the best-studied coastal areas on the planet, providing lessons of wider scientific importance for wetland and coastal management of international importance.

Criterion (ix): The Wadden Sea is one of the last remaining natural large-scale intertidal ecosystems, where natural processes continue to function largely undisturbed. Its geological and geomorphologic features are closely entwined with biophysical processes and provide an invaluable record of the ongoing dynamic adaptation of coastal environments to global change. There are a multitude of transitional zones between land, sea and freshwater that are the basis for the species richness of the property. The productivity of biomass in the Wadden Sea is one of the highest in the world, most significantly demonstrated in the numbers of fish, shellfish and birds supported by the property. The property is a key site for migratory birds and its ecosystems sustain wildlife populations well beyond its borders.

Criterion (x): Coastal wetlands are not always the richest sites in relation to faunal diversity; however this is not the case for the Wadden Sea. The salt marshes host around 2,300 species of flora and fauna, and the marine and brackish areas a further 2,700 species, and 30 species of breeding birds. The clearest indicator of the importance of the property is the support it provides to migratory birds as a staging, moulting and wintering area. Up to 6.1 million birds can be present at the same time, and an average of 10-12 million each year pass through the property. The availability of food and a low level of disturbance are essential factors that contribute to the key role of the property in supporting the survival of migratory species. The property is the essential stopover that enables the functioning of the East Atlantic and African-Eurasian migratory flyways. Biodiversity on a worldwide scale is reliant on the Wadden Sea.

Integrity

The boundaries of the property include all of the habitat types, features and processes that exemplify a natural and dynamic Wadden Sea. The large area of the property encompasses over 66% of the entire Wadden Sea ecosystems and is sufficient to maintain the critical ecological processes and to protect the key features and values. However the inscribed property would be strengthened by its further extension to include the area of the Wadden Sea which lies within the territory of Denmark.

The property is subject to a comprehensive protection, management and monitoring regime, which is supported by adequate human and financial resources. Human use and influences are well regulated with clear and agreed targets. Activities that are incompatible with its conservation have either been banned, or are heavily regulated and monitored to ensure they do not impact adversely on the property. As the property is surrounded by a significant population and contains human uses, the continued priority for the protection and conservation of the Wadden Sea is an important feature of the planning and regulation of use, including within land/water-use plans, the provision and regulation of coastal defences, maritime traffic and drainage. Key threats requiring ongoing attention include fisheries activities, harbours, industrial facilities and maritime traffic, residential and tourism development and climate change.

Protection and Management Requirements

Maintaining the hydrological and ecological processes of the contiguous tidal flat system of the Wadden Sea is an overarching requirement for the protection and integrity of this property. Therefore conservation of marine, coastal and freshwater ecosystems through the effective management of protected areas, including marine no-take zones, is essential. The effective management of the property also needs to ensure an ecosystem approach that integrates the management of the existing protected areas with other key activities occurring in the property, including fisheries, shipping and tourism.

Specific expectations for the long-term conservation and management of this property include maintaining and enhancing the level of financial and human resources required for the effective management of the property. Research, monitoring and assessment of the protected areas that make up the property also require adequate resources to be provided. Maintenance of consultation and participatory approaches in planning and management of the property is needed to reinforce the support and commitment from local communities and NGOs to the conservation and management of the property. The State Parties should also maintain their commitment of not allowing oil and gas exploration and exploitation within the boundaries of the property. Any development projects, such as planned wind farms in the North Sea, should be subject of rigorous Environmental Impacts Assessments to avoid any impacts to the values and integrity of the property.

IUCN MANAGEMENT CATEGORY

Unassigned

BIOGEOGRAPHICAL PROVINCE

Atlantic (2.9.5)

GEOGRAPHICAL LOCATION

The seven component parts of the property extend 650km along the southeastern coast of the North Sea between the islands of Texel and Sylt. The centre point of the westernmost component part lies at N 53° 23' 27" and E 05° 39' 57", the centre point of the easternmost component part at N 54° 31' 43" and E 08° 33' 22".

DATES AND HISTORY OF ESTABLISHMENT

1978: The first trilateral Danish-German-Dutch Governmental Conference on the Protection of the Wadden Sea was held in The Hague.

1982: The "Joint Declaration on the Protection of the Wadden Sea" is signed at the Third Wadden Sea Conference in Copenhagen. The Joint Declaration is a declaration of intent of the three Wadden Sea countries to consult each other in order to coordinate their activities and measures to implement a number of legal instruments with regard to the comprehensive protection of the Wadden Sea region as a whole, including its fauna and flora.

- 1987: The Common Wadden Sea Secretariat was established to facilitate and support the Cooperation. The ministerial conferences, which are held as a rule every 3-4 years, are the central decision making bodies for the cooperation.
- 1997: The arrangements of the Wadden Sea Cooperation have been embedded in the framework of the Trilateral Wadden Sea Plan, which entails policies, measures, projects and actions agreed upon by the three countries. The Plan is a statement of how the three countries envisage the future coordination and integration of management of the Wadden Sea Area and of the projects and actions that must be carried out to achieve the commonly agreed Targets.
- 2002: Designated a Particularly Sensitive Sea Area (PSSA) by the International Marine Organisation;
- 2005: The 10th Ministerial Conference was held on the Dutch island of Schiermonnikoog on 3rd November;
- 2011: Extended by the addition of the Hamburg Wadden See National Park (13,611ha) (UNESCO).

AREA

The inscribed property is 968,393 ha (UNESCO, 2011). No buffer zone is designated.

Component Part	State Party	Area (ha)	Coordinates of centre point
1. Key Planning Decision (PKB) Wadden Sea, part I	The Netherlands	247,386	N 53° 23' 27" E 05° 39' 57"
2. Key Planning Decision (PKB) Wadden Sea, part II	The Netherlands	790.000	N 53° 22' 00" E 06° 53' 47"
3. Key Planning Decision (PKB) Wadden Sea, part III / National Park Wadden Sea Niedersachsen, part I	The Netherlands/ Germany	8,931	N 53° 16' 31" E 07° 09' 49"
4. National Park Wadden Sea Niedersachsen, part II	Germany	166,648	N 53° 41' 44" E 07° 19' 57"
5. National Park Wadden Sea Niedersachsen, part III	Germany	49,134	N 53° 37' 40" E 08° 15' 50"
6. National Park Wadden Sea Niedersachsen, part IV	Germany	58,806	N 53° 50' 48" E 08° 26' 01"
7. National Park Wadden Sea Schleswig-Holstein	Germany	436,698	N 54° 31' 43" E 08° 33' 22"
Total property		968,393	

LAND TENURE

Most of the property is state (federal or state) owned and a very small part (0.25%) is privately owned.

ALTITUDE

~50m below to ~50m above sea level.

PHYSICAL FEATURES

The Wadden Sea is an extensive coastal tidal and mud flat system. The Wadden Sea mudflats are characterized 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 is a mesotidal barrier island system that only has minor river influences fringing the flat and low-lying coastal plain. The shallow southern North Sea meets an extremely flat marshland, only occasionally intersected by moderate elevations of glacial origin or of dunes on barrier islands. These elevations generally remain below 50m in height. In the tidal inlets with strong scouring currents the depth rarely exceeds 50m. Thus, over a length of 1000km of coastline and an average width of 250km, the profile remains within the narrow vertical confines of about 100m. The Wadden Sea is an ecological transition zone between land and ocean. With its estuaries, marshes and particularly its wide intertidal zone intersected by deep gullies, the Wadden Sea functions as a gigantic coastal filter system.

CLIMATE

The climatic conditions of the Wadden Sea are characterized by the interaction of humid maritime air masses coming from westerly directions, and dry continental air masses coming from the east. The eastward moving depressions originating in the North Atlantic dominate with their westerly winds. This explains rather mild winters and cool summers. The mean annual air temperature is around 8.5°C. The mean annual water temperature is about 9°C, with a summer average of 15°C and a winter average of 4°C. Extreme water temperatures of the last six decades were +23°C and -2.3°C in the tidal area. In spite of humid air from the sea, precipitation in the Wadden Sea region is moderate, with some 700 to 800mm per year or roughly 2mm per day.

VEGETATION

The Wadden Sea is home to 2,300 species of flora. The terrestrial vegetation within the property is predominantly related to salt marshes with the highest biodiversity found in sandy salt marshes and in the transition zone to dunes. Dune grasslands and scrub also occur. The marine vegetation is characterized by seagrasses that occur in mixed stands on the tidal flats.

Some of the salt marsh halophytes are succulents, compensating a high salt content by extending the vacuoles in their cells (e.g. *Salicornia* spp., *Suaeda maritima*). Others are capable of excreting salt through special glands (e.g. *Limonium vulgare*, *Spartina anglica*) or salt bladder cells, which fill with salt, then die or burst, releasing salt from the plant (e.g. *Atriplex* spp.). Still others simply seem to accumulate salt in their leaves until they die at the end of the season (e.g. *Juncus gerardi*). Under conditions of sea level rise, salt marshes will persist as a habitat by accretion. As the vegetation grows older, a gradual landward shift of the zonation may occur. Accretion is accomplished by inorganic sediments imported during inundations from the seaward tidal flats and by organic matter which is supplied by the marsh vegetation itself. Vertical accretion rates tend to decrease with increasing marsh elevation and with increasing distance from tidal flats or creeks meandering and branching across salt marshes. Vegetation height and density also facilitate accretion. These variations generate a rather irregular topography and a complex mosaic-like vegetation pattern.

Further, water-logged pans arise which are bare or with scarce vegetation. Instead of accretion, these pans may erode into salt marsh ponds, and these may eventually merge into a creek. It is basically the vegetation which generates this highly complex and irregular dynamic habitat mosaic of salt marshes. In the absence of grazing, often the reed (*Phragmites australis*) takes over. Depending on sediment supply and wave action, the seaward edge of salt marshes may show a variable width of pioneer zone composed mainly of glasswort (*Salicornia* spp.) and the cordgrass (*Spartina anglica*). While the former are annuals and rather short, the latter grows in dense tussocks which extend laterally and, finally, may merge into continuous belts.

FAUNA

The Wadden Sea is home to 4,200 species of fauna, mostly invertebrates, which use the rich spectrum of different microhabitats. The Wadden Sea is also an essential staging area for fish migrating between rivers for spawning and the oceans for feeding or vice versa. These fish could not complete their life cycles without the nutritious habitats of the shallow Wadden Sea. This also applies to many fish and invertebrates that rely on the tidal zone as a nursery and spend their adult life further offshore.

The Wadden Sea is of outstanding international importance as a breeding, staging, moulting and wintering area for birds. For 43 bird species the Wadden Sea supports more than 1% of the entire East Atlantic flyway population, which is the criterion used by the Ramsar Convention for identifying wetlands of international importance. Of these species, 4 visit for the breeding season, 24 are breeding as well as migratory species and 15 use the Wadden Sea only during their seasonal migrations. 29 species of migratory birds occur with more than 10% of their flyway population in the Wadden Sea. For five species, at least 25% of north-western (NW) European populations breed in the Wadden Sea. For 21 out of 31 species, the population accounts for more than 1% of the NW-European population, the majority of which rely on the property.

Survey results suggest that over 6 million birds may be present in the Wadden Sea at the same time each year, and an average of 10-12 million birds pass through the property annually on their way between their breeding grounds in Siberia, Scandinavia, Greenland and Northeast Canada and their wintering grounds in Europe, Africa and even further South. Most species reach highest numbers during autumn migration; numbers of waders are almost as high during spring, whereas ducks and geese overwinter in high numbers; only gulls reach considerable numbers in summer. Almost the entire population

of the dark-bellied brent goose (*Branta b. bernicla*) and the entire West-European population of dunlin (*Calidris alpina*) use the Wadden Sea during several periods of the annual cycle. Wadden Sea areas including the coastal zone of the adjacent North Sea are used by high numbers of moulting shelduck (*Tadorna tadorna*) and moulting and wintering eider (*Somateria mollissima*). 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.

The Wadden Sea is an important reproduction area for more than 30 species of breeding birds. For 5 species, at least 25% of northwestern European populations breed in the Wadden Sea. The Wadden Sea also constitutes a refuge in the life cycle for those species that have lost their inland habitats e.g. northern lapwing, redshank and black-headed gull.

The Wadden Sea sustains approximately 20% of the world-population of harbour seals (some 15,000 individuals in 2006) that belong to a sub-species (*Phoca vitulina vitulina*), which is found mainly in UK, Icelandic, Norwegian and Wadden Sea waters. The most important calving and nursing site for the harbour porpoise (*Phocoena phocoena*) population of the central North Sea is off the coast of the Wadden islands Sylt and Amrum. Overall, after centuries of extensive exploitation in the Wadden Sea, protection measures have triggered a striking comeback in many of the resident bird species and also of seals, which have shown a very good recovery within the last three decades, and also after the two virus epizootics in 1988 and 2002. Hunting of seals was stopped in the 1970s and essential habitats are kept free from human disturbance.

CONSERVATION VALUE

The Wadden Sea is one of the last remaining natural large-scale inter-tidal ecosystems where natural processes continue to function in an undisturbed manner. Excellent and broad scale examples of biogeomorphological processes can be found in the coastal dunes, the salt marshes, and on the tidal flats on mussel beds and sea grass meadows. This transitional environment between land and sea is characterized by the constant change of flood and ebb tides, great fluctuations in salinity, high temperatures during summer and occasional ice cover in winter. These circumstances have created numerous ecological niches, colonized by species that are adapted to the extreme environmental conditions.

The Wadden ecosystem is one of the internationally most important wetlands. It is internationally recognized as a biologically highly productive ecosystem of great natural, scientific, economic and social importance and has been designated a Particularly Sensitive Sea Area (PSSA) by the International Marine Organisation. The Wadden Sea is extremely rich in environmental gradients and transitional zones, yielding many different (micro) habitats that form the basis for ecological specialization under extreme conditions. The Wadden Sea is a critical habitat for about 2,700 species of marine origin in the intertidal and subtidal zones and at least 5,000 semi-terrestrial and terrestrial species, mostly the flora and fauna of salt marshes and dunes on the islands. The salt marshes alone host about 2,300 species of flora and fauna. In total it is estimated that the Wadden Sea Area provides habitats for up to 10,000 species of unicellular organisms, plants, fungi and animals.

The large size of the Wadden Sea allows the diverse species to survive by spreading over several habitats, or by adopting a series of niches over the course of time. This constantly opens up territory for use by other individuals or species, and accounts for a high capacity to accommodate migratory species. The marine deposits remain permanently flooded (subtidal) or are either periodically (intertidal) or episodically (supratidal) flooded by marine and brackish waters or in some cases even freshwater. Terrestrial soils range from very wet to extremely dry in the coastal dunes. High temperatures during summer and occasional ice cover in winter, and above all powerful storms with heavy rainfalls create these highly variable ecological niches for life. Under such circumstances, most species have adopted an extreme versatility. Others have evolved a high degree of specialization to survive the extreme environmental conditions.

LOCAL HUMAN POPULATION

The number of inhabitants within the property is 3 (2007).

VISITORS AND VISITOR FACILITIES

Approximately 20 million tourists stay overnight and 30-40 million day trippers visit the Wadden Sea region every year (the region being the Wadden Sea, the Wadden Sea Islands and the adjacent mainland areas). Through an extended net of information centres, visitor information systems, print and digital information and an increasing number of professional guides along the Wadden Sea, the quality

of nature experience for visitors has improved significantly, benefiting both the visitors and nature. The information and interpretation centres adjacent to the property are placed all along the shore. Furthermore, there is an extensive net of information tables and signs both at and within the property on those locations where visitors are assumed to go and have a look at the site or follow the many trails specifically made to provide them with information and enjoyment, while at the same time causing as little disturbance to the property as possible.

SCIENTIFIC RESEARCH AND FACILITIES

In the Wadden Sea, there is a long tradition of research on the composition of the regional flora and fauna. Nevertheless, not all groups of very small organisms have been assessed. Complete surveys on species richness within habitats are extremely time consuming and require a wide spectrum of taxonomic expertise. Therefore, this has been rarely accomplished. However, one such study has been performed at a sandy beach with a sand flat on the island of Sylt, along a 115m long transect from high to low tide level. Altogether, about 50,000 sediment samples have been analyzed and more than one million individuals have been examined and identified to species level. Most species belonged to the interstitial fauna, metazoans small enough to move through the interstices of sand without having to push sand grains out of their way. In total, 652 species were recorded, and for 148 of them that beach is the type locality, because these species were described here for the first time. To these, roughly 200 taxonomic groups not included in the survey have to be added. Also not considered are the plants, of which about 150 unicellular benthic algae may occur at the site. Thus, walking from high to low tide line on that particular beach one trespasses the territories of almost 1,000 species.

MANAGEMENT

An essential element of the management system of the property is the Wadden Sea Plan (WSP). The Wadden Sea Plan applies to both the property "The Wadden Sea" and the adjacent areas covered by the Wadden Sea cooperation. Following this ecosystem approach the World Heritage Site will benefit from the fact that the management of the whole area coming under the trilateral Wadden Sea cooperation is based on the same comprehensive agreements set out in the Wadden Sea Plan.

The Trilateral Wadden Sea Plan was adopted at the 8th Wadden Sea Conference in Stade, Germany in 1997. The WSP constitutes the common trans-boundary policy and management plan for the Wadden Sea Area. It is important to acknowledge that the WSP is a policy and management plan adopted by governments for a trans-boundary area and therefore has a wider perspective than a traditional management plan for a site in the sense that the WSP encompasses also the vision, principles, policies and measures and is a framework for the integrated protection and management of the Wadden Sea. The Plan is an agreement of how the countries envisage the coordination and integration of management of the Wadden Sea Area and of the projects and actions that must be carried out to achieve the commonly agreed targets.

The vision of the Wadden Sea Plan is:

- 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, historical-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.

For the common management six habitat types are distinguished:

- The offshore zone
- The beaches and dunes
- The tidal area
- The salt marshes
- The estuaries
- The rural area.

For the first five of these habitats ecological targets were adopted with the objective of maintaining and enhancing the area which is natural, dynamic and undisturbed, including targets for birds and marine mammals.

MANAGEMENT CONSTRAINTS

The tourist and recreational activities in and adjacent to the property are, as appropriate, comprehensively regulated. It is difficult if not impossible to determine the carrying capacity of an area like the property, which is so vast and complex, but it is justified to state in general that recreational activities are so well regulated and managed that they do not cause any adverse impact on the property. It is perfectly capable of absorbing the current and, possibly, an increased activity level in the future. On the contrary, while the property attracts many tourists because they want to enjoy the unique nature, the silence and the scenic beauty, they contribute to a significant extent to the comprehension of the natural values of the area, and in a wider sense to the protection and conservation of the Wadden Sea and the well being of those who live in the region.

Within the property, a zoning system is applied which regulates access and recreational boating in time and space. The most sensitive areas, such as the breeding and resting areas for birds and seals, are closed the whole or part of the year. Also, regulations and a code of conduct apply for falling dry with recreational boats. Voluntary agreements exist between yachting associations and the nature protection authorities to provide additional protection and prevent disturbance in those areas where access is not prohibited. Tidal flat walking is basically only allowed with a permit and on designated routes. Speed limits have been imposed for recreational boating for the largest part of the property. The use of jet skis, water skis and similar equipment is basically prohibited or confined to smaller designated areas within the property.

For activities in the areas adjacent to the property, a comprehensive planning system exists which aims to direct and regulate tourism. The building of tourist infrastructure, including e.g. marinas, is subject to assessment and planning and will only be allowed if there is no adverse impact on the property. The planning system, including the spatial planning, also limits the use of space and natural resources. All things considered, the tourist and recreational activities are well controlled and the current planning, legal and management system is robust enough to sustain an increase in the activity and prevent an adverse impact to result from it on the property.

COMPARISON WITH SIMILAR SITES

When comparing the Wadden Sea with the 31 existing World Heritage sites with significant marine components and the 24 World Heritage coastal island sites with no (or insignificant) marine areas it becomes apparent that there is only one listed property which the Wadden Sea compares with, and that is the Banc d'Arguin in Mauritania. 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. A further criterion therefore, is the presence of barrier islands that do not have a river delta origin. Of all mudflat sites larger than 300km² this results in one comparable area: The Georgia Bight (USA).

The Banc d'Arguin is a relic of former river deltas, which once flowed from the central Saharan basin to the Atlantic (indeed the Banc d'Arguin has been called "a warm Wadden Sea"). Bird numbers recorded at the Banc d'Arguin easily reach the millions. Both are large tidal areas and extraordinary productive ecosystems supporting a rich fish fauna with varied populations of piscivorous breeding birds. They both support huge populations of migratory waterfowl on the East Atlantic Flyway, thus being strongly linked to each other and constituting the key feeding and resting areas on this flyway.

There are also significant differences. The marine area included in the property is only half of the listed property (6,000km²) and only a very small part of that area - about 10% (630km²) - is intertidal area. The Banc d'Arguin does not have barrier islands. Furthermore, the area is located in another climatic zone, the tropics, making it very different from the Wadden Sea in terms of the governing processes.

The Georgia Bight (also named South Atlantic Bight) extends for a distance of 1,200km between Cape Hatteras in North Carolina to Cape Canaveral in Florida. Both, the German Bight as well as 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. The 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 reason why *Spartina* has managed to encroach upon the former tidal flats is the large supply of mud (grain sizes <0.063mm) 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.

STAFF

Of a total of 219 staff, 159 are from Germany (National Park Authorities and Services), 54 from the Netherlands (national government, regional and local coordination) and 6 are from the Common Wadden Secretariat. The overview of staffing level is confined to the staffing of government organizations which are directly related to the protection and management of the property for its nature protection values. The overview does not include the extensive staff of non-governmental organizations working in this field notwithstanding their crucial importance for the protection of the property. It is however not possible to provide an overview of the exact staffing level in this sense, since their tasks are very diverse. Neither have those organizations been included which execute normal management tasks in the property such as nature managers, maintenance of shipping channels and installations for shipping safety, police tasks and other tasks vital for the overall management of the property. The overview is predominantly confined to staff directly involved in policy making and information tasks.

BUDGET

Source	Amount (EUR)
Germany: National Park Authorities and Services (information centres, wardens and NGOs)	9,293,000
The Netherlands: National and regional authorities, service and coordinating agencies, and NGOs	8,400,000
Common Wadden Sea Secretariat	640,000

LOCAL ADDRESSES

Common Wadden Sea Secretariat (CWSS), Virchowstr. 1, D-26382 Wilhelmshaven
Webpage: www.waddensea-secretariat.org

REFERENCES

The principal sources for the above information were the original World Heritage nomination, supplementary information provided by the States Parties, IUCN's evaluation report and Decision 33 COM 8B.4 of the UNESCO World Heritage Committee.

IUCN (2010). *IUCN Evaluation of Nominations of Natural and Mixed Properties to the World Heritage List*. Gland, Switzerland.

DATE

October 2009, 5-011, January 2012.