

5. Trilateral Mapping Results

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5.1 Introduction

The primary aim of the LANCEWAD project was to make an inventory of the most important cultural-historic and landscape elements in the Wadden Sea Region. With the database that resulted from the inventory, the characteristics of the cultural landscape and the diversity between the regions could be mapped in a Geographical Information System (GIS).

At the start of the project, three major decisions had to be made:

- the delimitation of the survey area;
- the cultural-historic and landscape features to make an inventory of, and
- the sources of data to be used.

In this chapter, it is described how the project dealt with these aspects. Furthermore, explanations are given how each participating country/region managed to fill the database regarding each of the distinguished elements. From a short analysis of this information, it could be concluded that the database still shows some inconsistencies. In some cases, information about elements is lacking completely, sometimes information of types or attributes were hardly available. For a further data collection in order to have complete and harmonized data sets of all element in all regions, time was unfortunately too short.

But, it must be acknowledged that the resulting trilateral database is unique in the sense that it is the first international database of integrated cultural-historic and landscape features.

5.2 Delimitation of the survey area

Denmark: The Danish survey area is made up by the parishes that are either situated along the Wadden Sea coast or in direct connection to the Marsh. To prevent a survey area that is too extensive, in certain areas it has been necessary to use the village territories, not the parishes, as the outermost boundary. Meaning that the delimitation of the Danish survey area either follows a parish boundary or the boundary of a village territory.

Schleswig-Holstein: The area basically consists of the marsh areas of the two counties Nordfriesland and Dithmarschen. Added to these are the Wadden Sea Areas of these counties as well

as all the island and Halligen in the Schleswig-Holstein Wadden Sea area.

The southeastern border is the Nord-Ostsee-Kanal. Towards the landside the mapped area is basically oriented along the Pleistocene ridges as well as former sandbanks and bog areas along the prehistoric coastline and is usually in line with the Pleistocene cores. All river wetlands are left out, e.g. the Elbmarschen and the Treene-Sorge Niederung (Stapelholm). Included are all settlements, which have always been connected historically and economically to the marsh areas and are situated right at the edge between marsh and Geest or on sandbanks.

Lower Saxony: The survey area in Lower Saxony is determined by the 6 Landkreise and 2 kreisfreien Städte in direct connection to the Wadden Sea Coast. The area includes the mainland as well as the islands and the Wadden Sea of Lower Saxony. In addition, there is the parish of Schwanewede (Landkreis Osterholz) and the island Neuwerk from the territory of Hamburg. On the mainland, the mapping area contains the sea marsh areas, parts of the river marsh areas (Weser and Ems), parts of the Geest areas and parts of the peat areas. The outline is made up by the boundary of the parishes. Some parishes on the mainland without marsh areas are excluded (Appeln, Beverstedt [Flecken], Bokel, Firrel, Frelsdorf, Großefehn, Hesel, Kirchwistedt, Neukampfehn, Schwerinsdorf, Stubben, Uplengen, Wiesmoor). Also not included in the mapping area are the city of Bremerhaven and the Landkreis Stade.

The Netherlands: The delimitation has been defined as follows: included in the survey area (or Wadden Sea Region) are the Wadden Sea, the (former) islands and the area on the mainland, where the soil consists of marine clay. Bordering peat and 'Geest' areas are, for the most part, excluded. Municipalities along the inventory border that consist for more than 50-60% of marine clay, are fully included; where the area of clay is less than 50-60%, only the clay area is taken into account. In the province of Noord-Holland, an arbitrary delimitation had to be chosen. The 'Westfriese omringdijk' forms the southern border and the Wieringermeerpolder is excluded.

5.3 Description of elements

5.3 Description of elements, types and attributes

The mapped elements have commonly been selected by the three participating countries. The focus has been on elements and structures in the cultural landscape that are seen as the most important and characteristic for the cultural history and the identity of the landscape in the Wadden Sea Region. For example: dwelling mounds, dykes, sluices, pumping stations and polder mills, lighthouses, beacons and harbors. But also, villages, towns as well as important buildings and historical sites have been mapped to reflect other aspects of the common heritage. The complete list of elements was not available at the beginning of the project but has been the result of an interactive process during the project. This has resulted in a list that none the less contains the most important features of the cultural landscape in the Wadden Sea Region. For most elements a number of types have been attached. In the following they are written in italics. For further attributes to the mapped objects, see Annex 7.2.

Dwelling mound

A dwelling mound is an artificial height (mound) of clay and dung that enables living in undyked salt and river marshes. The size of the dwelling mounds varies from small mounds with just a single church or farm up to mounds with complete villages/towns on it and mounds built on dykes. The highest dwelling mounds rise up to 8 m above the surrounding landscape. Often dwelling mounds were erected on ridges in the salt marsh due to which these mounds are situated in rows. Round dwelling mounds were most often farming villages, elongated/rectangular mounds were often trading villages. Many dwelling mounds are fully or partly leveled, the soil being used as fertilizer. Some mounds are not built on.

Village

A village consists of a group of houses, together with other buildings such as farms, a church, a school and other communal buildings. They can be *concentric/round or elongated/linear*.

A *mound village* is a village on a dwelling mound. They are found in the former salt marshes of Germany and the Netherlands, which were inhabited before dyking was introduced in Late Medieval times. The oldest, agrar-

ian villages had originally a radial structure that sometimes stretched beyond the village into the parcellation of the fields. Rectangular or elongated mound villages can be found as well. At least some of them were trading villages.

A *dyke village* is a village that extends along a dyke. Originally the buildings (farms) were placed inside the dyke; after the dyke lost its defensive function, buildings (churches, workmen's houses) were erected on the dyke or along the outside (former seaside) of the dyke.

A *sluice village* is a village near a sluice or lock. Characteristic are the buildings along the waterway and often also along the dyke. Buildings usually have a trading, shipping or fishery function.

A *canal village* is an elongated structure of serried buildings, on one or both sides of a canal.

A *road village* is an elongated structure of serried buildings, on one or both sides of a road, at a road crossing, or at a crossing of a road and a waterway.

A *harbor village* is a village on the coast with a fishing and/or trading harbor. Where a harbor village arose along a dyke, there is usually a sluice as well, and the harbor is often located at the sea-side of the dyke.

Agrarian building

Different type of farms with features typical for the (sub-)regions in the Wadden Sea Region as well as *adjoining buildings* such as barns, sheds, haystacks, granaries etc. Traditional types are *Uthländisches Haus, Geesthardenhaus, Barghus, Gulphaus, Hallenhouse, Kop(hals)romp, Ostfiesian/Oldambtster and Haubarg/ Bargscheune/stelp*.

Characteristic field pattern

Only the most characteristic field patterns have been mapped.

By *radial* parcellation the structure of the parcellation is radial, the separating ditches are oriented towards a common point, usually the middle (church) of a dwelling mound.

By *parallel* parcellation the structure of the parcellation is parallel, usually along a road, waterway or canal.

By *block* parcellation the structure of the parcellation is made up of, more or less, rectangular or square plots.

The field patterns can be *regular or irregular*. The plots can be separated by *ditches, trees or*

earthen walls. Ditches are the most common separators in the marshlands. Often the former creeks and gullies can be recognized in the pattern of the ditches. Trees are found on the bordering sand and peat regions; earthen walls can be found in the areas where boulder clay occurs. There can be *vaulted arable land*.

Dyke

A dyke is an earthen bank, usually made of sand and/or clay; rarely of peat or seaweed. An *actual sea dyke* is a primary defense that currently separates the sea from the land. Almost all actual sea dykes have been heightened in the last decades.

Due to land reclamation, the actual sea dyke was shifted seaward, leaving the *old sea dyke* as a secondary or tertiary defense, just in case the actual sea dyke would break. A *summer dyke* is a low dyke or embankment outside the actual sea or river dyke, intended to prevent the land from flooding in summer time so that cows or sheep can graze the land. *Sand dykes* are constructed to strengthen the dunes or to connect two separate islands. A *dam* is a causeway, often in a river or creek, that dams off the waterway. An *embankment* is a thick wall or mound of earth that is built to prevent water from a river or the sea from flooding the area.

Ditch/waterway

Before the embankment of the salt marshes, the area was drained by *natural watercourses*. Later, man started to modify these natural watercourses. After the embankment, artificial waterways, *dug watercourses/drainage* canals and reservoirs for superfluous water had to be dug in order to drain the low-lying marshland. This resulted in a system of waterways that is partly semi-natural and partly artificial. Only in the Wadden Sea itself, the waterways (channels and creeks) are still fully natural.

A *moat/ditch* is a deep and wide ditch filled with water which was built as a defense measure surrounding castles, strongholds and (in later times) towns.

Sluice

Sluices are constructed where a dyke crosses a waterway. The oldest form is a simple draining cylinder with a valve ('pomp') that allows the river water running out at low tide, but prevents the seawater from getting in at high tide. Later constructions have movable doors to let

the water pass (weir). These sluices also make the passing of ships possible by using locks.

Land reclamation

Due to flooding at high tide, sand and clay is deposited on banks and at the seaside of the dykes. When the silting up continues it turns into salt marsh with a specific vegetation that can be used as a summer meadow. Salt marshes only flood at extreme high tide. By constructing dams of twigs, the deposition of sand and clay is artificially stimulated. Pools have to be dug in the reclaimed area to collect freshwater for cattle and sheep. When the area is silted up high enough, a new sea dyke may be constructed and new land is won.

Pumping station/polder mill

A *polder mill* is a wind-driven mill, used to drain the superfluous water from a polder into the sea or the inland system of reservoirs. Polder mills are therefore always situated close to the dyke surrounding a polder. Most common is the '*Dutch*' windmill, but other types made of timber or metal, such as *tjasker* or *American windmill* occur as well, especially in smaller polders. Some wind-driven pumping mills were also used for irrigation and for drinking water supply for animals. A *pumping station* is a mechanically driven pump to drain the superfluous water from a polder into the sea or the inland system of reservoirs. Most pumping stations are driven by electrical or diesel motors. They substituted former windmills and sluices (weirs) and have a much greater capacity.

Freshwater supply

To secure the supply of freshwater in the marsh areas, pools – the so called *fethings* – were dug on the dwelling mounds, on the Halligen and in the reclaimed areas. In areas that were frequently flooded, such as the Halligen and parts of the mainland marshes, *Ring dyke pools* with dykes prevented the water from becoming saline/brackish. *Water towers* have been built since the late nineteenth century, when drinking water was provided as tap-water. A water tower is a tower or standpipe serving as a reservoir to deliver water at a required head. They are usually found in or not far from towns, although they can be found in remote areas as well.

Wells can be both natural and dug/built. A *Scheetel* is a rain water collection system.

Wheel/breach pond

Breach ponds or wheels emerge at the place where a dyke breaks due to high water, usually during storm surges. The incoming seawater scours a deep, round hole behind the dyke. After the dyke is repaired, a bend around the wheel can often still be recognized. When old dykes have disappeared, wheels sometimes still mark the place where a dyke once existed.

City

Historical towns or cities are settlements on a strategic location, such as a higher, sandy place near the shore or the banks of a major river, that grew through trading in the Late Medieval times. Market, craft and toll rights, and in some cases a military or administrative function, stimulated the growth of the town. These towns usually have *town rights*. New towns were planned and built in more recent times. Most new towns in the region are harbor or naval towns (Esbjerg, Wilhelmshaven, Den Helder).

Maritime settlement

Towns, villages and other settlements with dwellings and facilities that can be connected to maritime activities, such as fishing, whaling, overseas trade, shipping and shipbuilding. Apart from a harbor, these settlements comprise, e.g., fishermen's houses, captains' houses, shipyards, fish industry etc.

Fishery and hunting

Fishery is to catch fish, usually by means of fishing gear, *hunting* is to pursue animals. Both is done to provide food or as a sport. One characteristic form is the use of *duck decoys*. These are wooded areas of land with a pool in the middle, used for catching ducks and similar waterfowl. Around a decoy, neither any other form of hunting nor plantations were allowed. A *camp site* is a site used in shorter time periods as base for hunting and/or fishing.

Harbor

A place where ships can call at. Some built harbors are still *in use*, others are *old harbors*. In former times, harbors were not always built but merely a naturally shaped *embarkation* places where it was convenient to call at land. An *anchorage* is a place suitable for casting anchor.

Places of craft and industry

Places where commodities are produced as *craft* with the use of a limited number of engines or as industry such as *shipyards*, *industrial factories*, *milk/fodder factories*, *fish factories* or *mineral assimilation* i.e. a factory where mineral products are processed, such as brick works, peat processing, gas station etc.

Navigation

Devices to help people on sea, such as a *lighthouse* containing a powerful flashing lamp that is built on the coast or on a small island in the sea to guide ships or to warn them of danger, a *rescue station* for housing of the rescue boat or a *sea mark* beacons and buoys, used for navigation and piloting ships.

Bridge, ferry, ford

The marshlands are low-lying and criss-crossed by thousands of ditches and canals. When roads were constructed, they had to cross these waterways. Especially where boat canals were crossed, *movable bridges* had to be constructed. Elsewhere, *fixed bridges* are found. Ferries are used to connect the islands to the mainland, but also to cross wide waterways. The most simple way to cross a watercourse, however, is at a ford, a shallow place that allows passage without the help of a bridge or a ferry.

Mining

Clay mining (and mining of boulder clay) was done to build and strengthen dykes from early times on. Since medieval times, clay was also mined to make bricks and - later - tiles and earthenware. The locally won marsh clay often contains a lot of iron that is responsible for the characteristic deep-red bricks of the Wadden Sea Region.

Clay that contains more lime makes a yellowish brick. Sand is mined on several places and for several reasons, recently especially for preparing building sites for housing and industries. Peat was dug to make turfs and use them as fuel.

Salt mining was done up to medieval times by burning the peat that had been soaked by seawater. Other types are *shells/chalk mining* and *gas/oil mining*

Canal

A canal is an artificial waterway for transport by ship. As trading in the old days was primarily done by water, many of the towns and villages in the marsh area, but also in the geest and fenlands, are connected by canals to the main water transport system. More recent canals only connect the main regional centers. Along the canals of the 17th, 18th and 19th centuries, there is often be a towing path allowing the ships to be pulled by horses. Canals for other purposes than transport are mapped under ditch/waterway.

Road, path, railway

Transport on land took place on a *road, path or railway*. *Towing paths* are paths along the canals for pulling ships, *church paths* are old paths leading to the parish church, *ring roads* are found around the outside of dwelling mound villages, *ravines (Hohlweg)* are old roads with high slopes on each side, *military roads* are mainly for the transportation of troops and *dyke passages* are place, where a road crosses a dyke, either by going over the dyke or through an opening in or the dyke. The cut in the dyke can - if necessary - be locked by beams, that are kept in a dyke storehouse.

Shipwreck

Shipwrecks are ships that are sunken, stranded or wrecked in other ways. Shipwrecks are mostly found *in the sea* but due to land reclamation, many shipwrecks in the Wadden Sea region are located *on land* far from the present coastline.

Place of trade and travel

A place connected to trade and travel such as *market place, inn, station* and *storehouse*.

(Industrial) mill

Mills driven by *wind* or by *water*, the energy being used for different purposes such as *sawing mill, flour mill, oil mill* and *paper mill*. Mills for water management purposes are mapped under pumping station/polder mill.

Castle/manor/estate

A *castle* is a large building with thick, high walls. Castles were built by important people, such as kings, in former times, especially for protection during wars and battles.

A *manor* is a large private house in the country, usually built in the Middle Ages, and the land and smaller buildings around it.

An *estate* is an large area of land in a country which is owned by a person, family or organization.

Church

Places of worship, in most of the Wadden Sea Region in the shape of a Christian *church* or a *chapel* but also *synagogues occur*. A *belfry* or *bell cage* can be attached.

Monastery

A place where monks live as a community under religious *vows*.

Burial place

Places where dead people are buried, in the Wadden Sea Region mainly Christian *churchyards* but also *Jewish graveyards*. Prehistoric types are *burial fields, burial mounds* and *chambered tombs*.

Communal and other building

Under this category are mapped *dwelling houses* in towns and *urban ensembles*. In addition communal buildings such as *town halls, court houses, water board buildings, dyke storehouses* and *schools* as well as buildings that do not fit in any of the other categories.

Historical place

Places of historical significance either a *historical place*, such as battlefield, a *pilgrimage* or a *memorial stone/statue*.

Military object

Places or items connected to military activity such as *naval harbor, bunker/casemate, defense line, fort/sconce* and *fortification* in a town.

Tourism and recreational facility

Object with the main purpose of serving tourist and recreation such as *skating ground, fivel ground, skating tour, walking tour* and *hotel*.

Other

Here are mapped objects which do not fit in under the other categories.

5.4 Data sources

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The basis for the registration was the use of existing data. Especially the use of existing databases had a high priority. Below is an account of which data sources have been available in the four regions.

Denmark: In Denmark, only two databases were available to this project.

- The database of the DKC (Cultural-Historical Central Register). This is a national database of mainly archaeological sites and monuments. The database is not finished and in more than 10 parishes in the County of Ribe, there only exist sparse information.
- The database set up by the County of Sønderjylland in connection to the appointment of "Cultural environments" for the regional planning.

In addition to these databases, the Danish project team used different sources:

- List of protected buildings (Forest and Nature Agency). Contains all national protected buildings in Denmark.
- Trap: Denmark. "Trap" is a topographical work in five editions covering all of Denmark, containing information on churches, manors, villages, memorial places etc. The first edition came in the middle of the 19th century and the fifth (almost 30 volumes) in the middle of the 20th century.
- "Kommuneatlas". Atlases containing information on valuable buildings and contexts in the cultural landscape. There exist only atlases of the municipalities of Varde, Esbjerg, Ribe and Tønder.
- Information from the "Tønder-Ballum project" where local working groups collected information for the mapping. The project was organised by the museums of Tønder and Haderslev.
- Information from the marine archaeological project carried out by The Forest and Nature Agency and the National Museum of Denmark.
- Around 250 books, articles, reports and leaflets.

Schleswig-Holstein: Two main sources have been used to gather the information for this project: The federal archaeological register from the federal agency of archaeology and the list of protected buildings from the federal agency of monument protection.

The first consists of the following sub-sources, which are partly published in different sources and partly updated by local surveys:

- Archaeological register of Dithmarschen from D. Meier, partly updated in the 1990ies, partly on GIS
 - Norderhever Projekt of the area of the marsh island and the Halligen from Kühn, Müller-Wille, Harck u.a., 1988, (only archaeological objects up to medieval time)
 - Archaeological register of the North Frisian islands from Kersten, La Baume, 1958 (only archaeological objects up to medieval time)
 - Archaeological survey on dwelling mounds in Schleswig-Holstein by K. Burk, 1940ies (mainly mounds, dykes and connected objects)
 - Map of listed archaeological monuments
 - Some smaller surveys on very restricted areas.
- All of them leave different gaps in the different areas, especially regarding later-than-middle-age objects. The date of the information is sometimes very old, therefore, changes could have occurred. Information on all the different attributes was scarcely available, in most of the sources it was at least limited. Some of the gaps were partly closed by consulting modern maps and additional books.

For buildings to the list of protected monuments of the State Department of Ancient Monuments 2000, some minor sources are added:

- Card register of historical buildings of the District Department of Ancient Monuments. It contains an inventory of preservable buildings, collected 1983-1989, only partly updated 1991-1998.
- Kunst-Topographie Schleswig-Holstein from the State-Departm.of A.M., Neumünster 1969.
- Kunstdenkmäler der Provinz Schleswig-Holstein, Berlin 1939 / Kreis Südtondern / Kreis Husum / Kreis Eiderstedt. These topographies contain former inventories of historical buildings with descriptions and pictures.
- Topographie des Herzogthums Schleswig, Joh. Schröder, Schleswig 1837. It is an inventory of all villages and towns with short descriptions about history and 'actual' development.
- Wohnplatzverzeichnis Schleswig-Holstein 1987, Kiel, 1992; an official inventory of all places, communities and departments, published by the State Department of statistics, with information about the administrative and topographic designation and the number of inhabitants and households.
- Books, reports and magazines.

Lower Saxony: In Lower Saxony for this project has been used only existing databases.

The most important database was the "Verzeichnis der Kulturdenkmale" (§ 4 Niedersächsisches Denkmalschutzgesetz [NDSchG]) called "Niedersächsische Denkmalkartei" (NDK), which is kept by the "Niedersächsisches Landesamt für Denkmalpflege" (NLD) in Hannover. It contains all protected historical buildings and monuments in the whole working area and the most important archaeological monuments in the Unterweser- and Jade-districts. The data for further more archaeological objects in Unit II has been taken from the „Fundstellenkartei“ (FStK), which is kept by the NLD as well and from the "Denkmaltopographie Wilhelmshaven" (Wulf, F.-W. 1996. Archäologische Denkmale in der Kreisfreienstadt Wilhelmshaven. Materialhefte zur Ur- und Frühgeschichte Niedersachsens, Reihe B, Heft 1. Hannover.).

Additionally information has been used from the archaeological databank of the „Archäologische Forschungsstelle der Ostfriesischen Landschaft“ (OLAF). In this databank are information about all archaeological objects in the districts of Ostfriesland.

Most of the information about the archaeological objects in the Elbe-Weser-districts has been derived from the survey of Hadeln and Wesermünde (county Cuxhaven) from H. Aust. In addition to this database has been used the archaeological register from the "Kreisarchäologie Cuxhaven" (Bad Bederkesa) and the "Stadtarchäologie Cuxhaven" (Cuxhaven). More detailed information about historical buildings and monuments in the city of Cuxhaven has been taken from the "Denkmaltopographie Cuxhaven" (Böker, D. [bearb.] 1997. Denkmaltopographie Bundesrepublik Deutschland. Baudenkmale in Niedersachsen. Bd. 19 Landkreis Cuxhaven. Hameln.).

For the island Neuwerk the information about the historical buildings and monuments and the archaeological objects as well, was available at the „Helms Museum Hamburg-Harburg, Staatliche Bodendenkmalpflege“.

Not all registered historical buildings and monuments can be mapped. There exist only coordinates to the archaeological objects. For mapping of historical buildings and monuments it is necessary to check the addresses and the information in the "Automatisierte Liegenschaftskarte" (ALK). The combination of these two sources was complicated and gave a map-

ping result between 63,33 % (Schwanewede) and 97,85 % (Emden) of cases.

In Lower Saxony all historical buildings and monuments and all archaeological monuments corresponding to § 3 NDSchG (Begriffsbestimmung) are protected. Pursuant to § 5 NDSchG (Wirkung der Eintragungen in das Verzeichnis) it is irrelevant if the object is listed in the "Verzeichnis der Kulturdenkmale" (§ 4 NDSchG) or not.

The reasons for some gaps in the Lower Saxony project-database (land reclamation, city, etc.) originated from the used databases (see before).

The Netherlands: In the Netherlands, existing digital databases formed the basis for the inventory. These databases were derived from the State Service for Archaeology (*ROB; archaeological sites*), the State Service for Built Monuments (*RDMZ: historical towns and villages; historical buildings*); the ExpertiseCentrum LNV (*historical-geographical elements and structures*); the provinces of Groningen, Fryslân and Noord-Holland (*historical-geographical and other relevant elements*) and Alterra (*historical-geographical landscapes*). As some of these databases contain the same elements, some overlap may have occurred. The inventory in the province of Fryslân has not been completed yet. Due to this, a small strip in the southern half of Fryslân lacks historical-geographical data.

Additional information was derived from the C.B.S. topographical map and the topographical map 1 : 25.000 of the National Topographical Service. Information about duck decoys was delivered by ing. J.J.H.G.D. Karelse of 'EEN-DenkKOOI Onderzoek'. Information on village types was derived from literature (*Arthur Steegh: Kleine Monumentenatlas van Nederland*). Furthermore, information was delivered by many enthusiastic volunteers and organizations in the region, that were requested to do so. Especially the National Agency for Forestry and Nature Management (*Staatsbosbeheer*), district Friesland, has to be mentioned. On a few elements, hardly any information turned up to be available in the existing databases. Even fewer information was available of the attributes. Many of the lacking information, esp. of objects and sites of local importance, is available in the municipalities, in regional archives and among historical and landscape organizations throughout the region. This information, due to lack of time, unfortunately could not yet be included.

5.5 Inventory

5.5 Inventory registration

The heterogeneity of the data sources is inevitably reflected in the number and types of the mapped objects.

Dwelling mound

Denmark: All known dwelling mounds were mapped.

Schleswig-Holstein: All known dwelling mounds were mapped.

Lower Saxony: All known dwelling mounds were registered and mapped.

The Netherlands: All registered dwelling mounds were mapped. Most relevant types and attribute data are available as well.

Village

Denmark: All villages were mapped – including all known prehistoric ones. All villages situated on the Geest edge have been assigned with the overall assessment: regional.

Schleswig-Holstein: The most important villages with a preserved historical center or an abundant stock of historical buildings and the characteristic types of villages for the Wadden Sea Area were mapped. Archaeological settlement sites that indicate several village-like farmsteads were also included.

Lower Saxony: Some villages had been registered in the lists of archaeological monument. These objects were mapped.

The Netherlands: The most important villages and village types were mapped; the data set is incomplete. Few attributes were available (apart from 'protected villages'). Also, the known prehistoric 'settlements' were included.

Agrarian building

Denmark: All nationally protected buildings and the ones granted the value "highly worthy of preservation" in the "Kommuneatlas" were mapped. Meaning that municipalities without a "Kommuneatlas" are underrepresented.

Schleswig-Holstein: All protected buildings of the list of monuments, 'simple' and 'registered', added by a few characteristic farmsteads which are valued only as 'worth to preserve' were mapped. Uncertain or single-farmstead archaeological settlement sites were included here.

Lower Saxony: All protected agrarian buildings had been registered. Most of them were mapped.

The Netherlands: Only 'protected' farmsteads and adjoining buildings were mapped. On these, many attribute data were available. It was not always possible to distinguish between element types.

Characteristic field pattern

Denmark: Only a few characteristic field patterns had been registered. That does not mean that other field patterns are not interesting and characteristic. They should all be assessed in their context if there is to be any changes or interfering.

Schleswig-Holstein: Only some examples of characteristic field patterns in this area were selected. In consequence there could be and are a lot more of the same type.

Lower Saxony: Some characteristic field patterns had been registered in the monument lists. These objects were mapped.

The Netherlands: Only the most characteristic field patterns, indicated by the provinces and EC LNV, were mapped, also some attributes.

Dyke

Denmark: All known dykes were mapped. Probably, there exist quite a few summer dykes that are not registered. A registration of all summer dykes is desirable.

Schleswig-Holstein: All dykes from the above-mentioned sources were mapped. Some of them already disappeared.

Lower Saxony: All protected dykes had been registered and were mapped.

The Netherlands: All existing data of dykes (of existing as well as disappeared ones) were used. Some overlap may have occurred due to the use of different sources. Information was available on only a few attributes. Where available, dyke-passages were mapped too.

Ditch/waterway

Denmark: Only a few major irrigation and drainage ditches were mapped – for instance the straighten streams.

Schleswig-Holstein: Some major drainage ditches were mapped. Where information was at hand, all former natural watercourses like streams or tidal inlets were mapped. There is almost no additional information.

Lower Saxony: Some ditches and waterways had been registered and were mapped.

The Netherlands: Apart from some individual objects, especially in the province of Fryslân, the dataset of the CBS-mapping, containing all waterways, was used. These data contain no attributes.

Sluice

Denmark: All major and quite a few minor sluices were mapped.

Schleswig-Holstein: All major sluices, but only a few minor ones were mapped.

Lower Saxony: All protected sluices had been registered. Most of them were mapped.

The Netherlands: All available data were used. Omissions may have occurred. Type information was not always available (lock/weir or sluice). Many attributes were available.

Land reclamation

Denmark: A few examples of the most recent land reclamation were mapped – most of them are now serving as coastal protection.

Schleswig-Holstein: The areas of land reclamation along the coast and around islands were mapped.

Lower Saxony: No areas of land reclamation had been registered in the monument lists.

The Netherlands: The main areas (former) of land reclamation were mapped. No attributes were available.

Pumping station/polder mill

Denmark: Not all pumping stations and polder mills were mapped. The most comprehensive information concerns the county of Sønderjylland.

Schleswig-Holstein: Where data was available, it was mapped. Although, it was only a few.

Lower Saxony: All protected pumping stations and polder mills had been registered. Most of them were mapped.

The Netherlands: Most of the polder mills were mapped; of pumping stations, only the historical important ones were taken into consideration. Many attributes were available.

Freshwater supply

Denmark: Due to lack of information, only a few examples of freshwater supply in the marsh area were mapped. In contrast, quite a few water towers were mapped.

Schleswig-Holstein: Only the protected buildings, like water towers, of the list of monuments were mapped. All pools were mapped. Data differed strongly between sub-regions.

Lower Saxony: All protected objects of freshwater supply had been registered. Most of them were mapped.

The Netherlands: Most pools were mapped; only a few water towers were mapped. Only a few attributes were available.

Wheel/breach pond

Denmark: All known breach ponds were mapped. There might be more, but so far, they had not been registered.

Schleswig-Holstein: All available wheels, some bends in dykes that indicate former breaches. Data differs strongly between sub-regions.

Lower Saxony: Some wheels and breach ponds had been registered in the monument lists. Most of them were mapped.

The Netherlands: Quite a few breach ponds were mapped, though still many – especially disappeared wheels – must be lacking. Few attributes were available.

City

Denmark: All towns with privileges were mapped. Including the small town Højer, which had only a limited number of privileges.

Schleswig-Holstein: All towns with an important historical center or an abundant stock of historical buildings were mapped. The historical and protected buildings of the towns are not mapped separately.

Lower Saxony: No towns had been registered or were mapped.

The Netherlands: All towns with privileges and two 'new towns' were mapped. Attributes were only available of protected towns.

Maritime settlement

Denmark: Settlements emerged in connection to the sea were mapped. Including skipper communities and fishing hamlets.

Schleswig-Holstein: There are only a few skipper communities and settlements of fishermen. Mostly these settlements are part of a town/village or a settlement.

Lower Saxony: No maritime settlement had been registered or were mapped.

The Netherlands: Most important maritime settlements were mapped, but the inventory is far from complete. No attributes were available.

Fishery and hunting

Denmark: Primarily material relics like duck decoys and fish weirs were mapped.

Schleswig-Holstein: All duck decoys were mapped.

Lower Saxony: Only two fishing houses registered in the list of historical buildings were mapped.

The Netherlands: All duck decoys with all attributes were mapped. Fishery: only a few objects were mapped. Incomplete.

Harbor

Denmark: All known harbors – including embarkation places without physical relics – were mapped.

Schleswig-Holstein: All existing and former harbors (as far as known) were mapped.

Lower Saxony: Some harbors resp. basins/buildings/docks had been registered in the monument lists. Most of them were mapped.

The Netherlands: All existing and former harbors (as far as known) were mapped. Some anchorages were mapped. Few attributes were available.

Places of craft and industry

Denmark: Only a few important ones were mapped.

Schleswig-Holstein: All protected and only some characteristic buildings with the valuation 'worth to preserve' of the card-register were mapped.

Lower Saxony: Some places of craft and industry had been registered in the monument lists. Most of them were mapped.

The Netherlands: Only some important ones were mapped, due to lack of digital information. Very incomplete.

Navigation

Denmark: Primarily the most important or protected lighthouses, sea marks and rescue stations were mapped.

Schleswig-Holstein: All protected lighthouses of the list of monuments were mapped.

Lower Saxony: All lighthouse and sea marks were mapped. Some of them had been registered in the monument lists.

The Netherlands: All lighthouses and some important sea marks/beacons and rescue stations were mapped.

Bridge, ferry, ford

Denmark: Old or important crossings were mapped.

Schleswig-Holstein: Only protected bridges were mapped. No data on fords were available.

Lower Saxony: All protected bridges and ferries had been registered. Most of them were mapped.

The Netherlands: Many movable bridges and the most important fixed bridges were mapped. No attributes were available. Ferries (from and to the islands) were all mapped. Fords do not occur.

Mining

Denmark: Mostly areas of sand or clay mining were mapped.

Schleswig-Holstein: Some known places of mining, especially clay mining for dyke and mound building were mapped.

Lower Saxony: Two places of peat mining had been registered in the lists of archaeological monuments. These objects were mapped.

The Netherlands: Only some important places of mining (peat, clay, salt) were mapped. Only a few attributes were available.

Canal (transport)

Denmark: All canals that were build to make sailing easier were mapped.

Schleswig-Holstein: All were mapped.

Lower Saxony: Some canals had been registered in the monument lists. Some of them were mapped.

The Netherlands: Incompletely mapped. Especially data in the province of Groningen are still lacking. Only a few attributes were available.

Road, path, railway

Denmark: All railways were mapped. Concerning the roads; only the important ones already pointed at (including the "low tide roads") and the old road-system around Varde were mapped. Only a few paths were mapped.

Schleswig-Holstein: A selection of a few major roads, connecting roads and paths and old railways were mapped. Data differs strongly between the sub-regions.

Lower Saxony: Some roads and paths respectively parts of them (e.g. milestone) had been registered in the monument lists. Most of them were mapped.

The Netherlands: All existing railways and some roads and paths were mapped. Only incomplete and a few attributes were available.

Shipwreck

Denmark: All known shipwrecks were mapped.

Schleswig-Holstein: Almost no coordinates for shipwrecks were available.

Lower Saxony: Some ships and shipwrecks had been registered in the monument lists. Most of them were mapped.

The Netherlands: All shipwrecks in ROB-database were mapped. Recent, non-archaeological shipwrecks (WRAKSYS database) are still lacking.

Place of trade and travel

Denmark: Most inns and ferrymen's houses plus all protected station buildings were mapped. Only one market place outside a town is known and was mapped.

Schleswig-Holstein: All protected railway stations with adjoining buildings, inns, store houses, ferry-houses and only a few not protected ones, but buildings with the valuation 'worth to preserve' of the card-register were mapped.

Lower Saxony: Some places of trade and travel had been registered in the monument lists. Most of them were mapped.

The Netherlands: Some old railway stations and some objects (e.g. inns, weigh-houses) were mapped. Very incomplete. Attributes were included.

(Industrial) mill

Denmark: All existing and almost all known demolished water- and windmills were mapped.

Schleswig-Holstein: All protected industrial mills were mapped.

Lower Saxony: Many mills had been registered in the monument lists. Most of them were mapped.

The Netherlands: All protected industrial mills (flour mills) were mapped; no other mills.

Castle/manor/estate

Denmark: All known existing and former manors plus castles and castle mounds were mapped.

Schleswig-Holstein: All protected castles/manors/estates /gardens/parks were mapped. Archaeological fortifications belong here as well.

Lower Saxony: Most of the castles, manors, and estates had been registered in the monument lists. Most of them were mapped.

The Netherlands: All known and protected castles and strongholds (hege wieren, borgen, stinsen, staten) and estates were mapped; including parks and gardens. Many attributes were available.

Church

Denmark: All known churches were mapped.

Schleswig-Holstein: All protected churches, bell cages, were mapped.

Lower Saxony: All protected churches had been registered and were mapped.

The Netherlands: All old and protected churches, synagogues and vicarages were mapped. Many attributes were available.

Monastery

Denmark: All known monasteries – existing or demolished – were mapped.

Schleswig-Holstein: There were no monasteries in the Wadden Sea Area of Schleswig-Holstein.

Lower Saxony: All protected monasteries had been registered and were mapped.

The Netherlands: All known former monasteries were mapped. Many attributes were available.

Burial place

Denmark: All known prehistoric burial places were mapped. Only churchyards situated by themselves or churchyards with special features in connection with existing churches were mapped.

Schleswig-Holstein: All protected burial places of the list of monuments were mapped. All archaeological burial sites with at least a few burials were mapped.

Lower Saxony: Many burial places had been registered in the monument lists. Most of them were mapped.

The Netherlands: All known pre-historical and a selection of historical (Christian and Jewish) burial places were mapped. Some attributes were available.

Communal and other buildings

Denmark: All nationally protected buildings and the ones granted the value "highly worthy of preservation" in the "Kommuneatlas" were mapped. Meaning that municipalities without a "Kommuneatlas" are underrepresented. In some Towns and Maritime Settlements buildings are joined in Urban ensembles that represents more than two protected dwelling houses in a row or all buildings granted the value "highly worthy of preservation" in the "Kommuneatlas" in the towns of Tønder, Ribe and Esbjerg.

Schleswig-Holstein: All protected communal and other buildings of the list of monuments, some characteristic, not protected but buildings valued as 'worth to preserve' of the card-register, added by a few characteristic urban ensembles were mapped.

Lower Saxony: All protected communal and other buildings had been registered. Most of them were mapped.

5.6 Trilateral maps

The Netherlands: Very many protected objects with attributes were mapped. Where possible, different types (*town hall, court house, water board building, dyke storehouse, school, warehouses and captains house*) were distinguished. Where the selection of types turned out to be not possible, these objects were considered to be 'dwelling houses'. Courts, almshouses and working-class housing-estates were put under 'urban ensemble'.

Historical place

Denmark: The most relevant memorial places for the Wadden Sea Area were mapped. That means flood poles and memorial stones for drowned people. Also, pilgrimages and most local memorial stones were mapped.

Schleswig-Holstein: Very few important historical sites were mapped. Known places of execution were included here.

Lower Saxony: Many historical places and sites had been registered in the monument lists. Most of them were mapped.

The Netherlands: Only a few historical places were mapped. Many interesting sites, statues and memorial stones are still lacking.

Military object

Denmark: Contains primarily relics from World War 2. But only the relics pointed out by the Forest and Nature Agency in "Kulturspor fra 2. Verdenskrig" were mapped.

Schleswig-Holstein: All protected military settlements of the list of monuments were mapped.

Lower Saxony: Many military objects had been registered in the monument lists. Most of them were mapped.

The Netherlands: Military objects from the 16th century (Dutch Rising) on to the Cold War period (air defense towers) were mapped. Especially relics from World War 2 were incomplete. Few attributes were available.

Tourism and recreation facility

Denmark: This category also contains hotels.

Schleswig-Holstein: All protected hotels of the list of monuments were mapped.

Lower Saxony: Many facilities for tourism and recreation had been registered in the list of historical buildings. Most of them were mapped.

The Netherlands: Only a few objects (hotels, sports facilities and tours) were mapped, due to lacking databases.

Other

Denmark: Contains historical boundaries and objects that did not fit in one of the previous categories.

Lower Saxony: Some boundary stones had been registered in the monument lists. Most of them were mapped.

The Netherlands: contains some historical boundaries and boundary stones, as well as 20th century pine plantations on the islands. Few attributes were available.

5.6 Trilateral maps

The trilateral maps presented by the LANCEWAD project are not intended for analyzing the historical, geographical, or cultural context of the Wadden Sea Region. The large scale of the maps as well as the different and nationally not balanced data allow only an overview and impression on the geographical distribution of element objects, taking types, periods, protection status and other attributes into account. To get more detailed information the maps of sub-regions are more suitable.

The titles of the maps are as follows:

1. Names of islands, towns and rivers in the Wadden Sea Region
2. Geomorphology and sub-regions of the Wadden Sea Region
3. Dwelling mounds with period of origin in the Wadden Sea Region
4. Dykes and sluices in the Wadden Sea Region
5. Maritime-related sites in the Wadden Sea Region
6. Foundation of villages and churches in the Wadden Sea Region
7. Protection of buildings in the Wadden Sea Region

6. Criteria and Guidelines

6. Criteria and Guidelines for the Conservation, Management and Sustainable Use of the Heritage in the Wadden Sea Region

6.1 Conservation and management of the landscape and cultural heritage in the Wadden Sea Region

6.1.1 Introduction

An outline of the administrative structures and the legal-administrative and planning instruments including economical instruments of the three countries pertaining to the landscape and cultural heritage of the Wadden Sea Region including relevant sector developments is given in this chapter. The aim is to provide an overview of the main structures and instruments in the countries also with reference to the Wadden Sea Region to enable defining the main issues of conservation and management in conjunction with the evaluation of the conservation and management status of the heritage, and as a next step develop recommendations for common criteria and guidelines. Because of the complexity of the item, the outline is confined to describing the main issues and developments.

6.1.2 Administrative and management structures

In The Netherlands, the overall responsibility for the conservation and management of the landscape and cultural heritage is located at the state level. The Ministry of Agriculture, Nature Management and Fishery is responsible for nature conservation and landscape management including cultural landscapes and the preservation of historical gardens, forests and agricultural land of estates through the Nature Conservation Act respectively the Natural Beauty Act and a number of national policy plans and management regulations.

The Ministry of Education, Culture and Science is responsible for the state policy on archaeology, historical buildings, monumental sites and towns and villages. The most important instruments are the Monument Act and the Cultural Plan. The Monument Act defines tasks and responsibilities of the different authorities. The general principle of the Act is

to give the government level, which is most suited for executing the stipulations of the Act, the responsibility.

The Ministry of Housing, Physical Planning and Environment is responsible for the national physical planning and the protection of the soil according to the Physical Planning Act and the Environmental Management Act. Several national policy plans have been issued including the key planning policy plan for the protection of the Dutch Wadden Sea which are relevant also for the overall management of the landscape heritage.

The provinces and the municipalities have a substantial degree of planning authority within their territory. Whereas the overall national planning is entailed in national policy plans; each province elaborates regional policy plans e.g. a regional physical planning document. The regional physical plans focus, to a larger extent, nowadays on the landscape and cultural values of the region, and the provinces are therefore important actors regarding the management of the landscape and cultural heritage. The municipalities are responsible for the municipal planning taking into account the national and regional policy plans. Contrary to regional plans, the local plans are legally binding for the citizens. Local plans can address also heritage conservation and management.

In Germany, the management of the landscape heritage to the extent defined as natural areas is regulated according the Federal Nature Conservation Act, which is a federal framework law implemented by state legislation. Further landscape management, physical planning and conservation and management of the cultural heritage is basically a competency of the federal states ("Länder") which the federal government has no authority for.

In Lower Saxony, the State Ministry of Culture and Science is responsible for the protection of archaeological sites and build monuments according to the Lower Saxon Monument Protection Act as the supreme authority. The Lower Saxon State Monument Service, which is the intermediate authority in this field identifies and registers the monuments. Their expertise is the legal condition for applying the Monument Protection Act by the monuments protection authorities, which are the county councils being the lower authorities, the district governments being the intermediate authorities, and the Ministry for Culture and Science.

The State Ministry for the Environment is responsible for the State Nature Protection Act, which also provides the possibility to protect cultural landscapes. The counties are the lower authorities applying the law, and the district governments issue the nature protection orders and planning as the intermediate authority. Further hereto there is the physical planning of the state territory and regional plans for the counties. The municipalities are responsible for the local plans and construction plans implementing the local plan into actual use. The local plans are crucial for the management of the heritage and the municipal authorities are therefore essential for the conservation and management of the landscape and cultural heritage.

The administrative and management structures of Schleswig-Holstein are comparable to those of Lower Saxony. An essential difference is that in Schleswig-Holstein there is no district government level. The State Ministry for Environment, Nature and Forest is the supreme state nature conservation authority in the framework of the State Nature Conservation Act. The State Agency for Nature and Environment is the intermediate nature conservation authority, for the territory of the Wadden Sea national park, the National Park Agency is the intermediate authority, and the county councils are the lower conservation authorities. The State Nature Conservation Act is applicable to the protection of nature areas and historical cultural landscapes. The ministry also issues a state program for landscape management and regional landscape policy plans.

The State Ministry of Culture and Science is responsible for the protection of the cultural heritage in the framework of the State Monument Protection Act. The State Agency of Archaeology and the State Agency for Monument Protection are the intermediate authorities, and the county councils are the lower authorities in this field. The intermediate authority of the State Monument Agency is responsible for cataloguing, research, assessment, registration and protection of monuments. The task of the lower authority is the realization of the Monument Protection Act and the approval of actions where the Monument Act is applicable. In the latter case, the intermediate authority must be consulted. Further fields of engagement for the lower authorities are information and consulting with regard to municipal planning.

The Ministry of Rural Areas is responsible for the overall physical planning for the state of

Schleswig-Holstein. An overall state physical planning program has been elaborated in conjunction with five regional programs. The municipalities are responsible for the local plans as in Lower Saxony and in relevant cases, the state agencies for archaeology and monuments will be consulted to safeguard those interests.

The county councils as lower authorities for nature and monument protection have a high degree of planning authority within the framework of the state physical planning programs and regional developing plans. They are however not legally binding for municipal development plans. Aspects in the latter not in line with the supreme plans are not supposed to handicap the aims of nature and monument protection or should be integrated in case it is of major interest for planning.

The intermediate authorities of the Ministry of Rural Areas are the Agencies of Rural Areas. The one responsible for the Wadden Sea area and the coastal areas is the agency in Husum. The lower authorities are the county councils. The responsibility of the Ministry of Rural Areas is the promotion of a modern agriculture and fishery, aiding the rural areas in their economic, social and cultural development and coastal protection. The agency in Husum is responsible for the realization and support of the physical planning, e.g. for agriculture, village development, rural road construction, rearrangement of the rural structure, tourism and coastal protection. Besides the regional plans the county development plans realize the physical planning on the communal level.

In Denmark, the main responsibility for conservation and management of the physical cultural heritage is vested at national authorities. The planning department of the Ministry of Environment and Energy has the overall national planning authority and can issue guidelines for planning to the regional authorities. The National Forest and Nature Agency of the ministry has the overall responsibility for the preservation and conservation of the valuable landscapes, cultural environments, historical monuments including archaeological sites in situ and the conservation of built monuments and of urban preservation. Since the agency is also the responsible authority for, a. o., nature protection and restoration, it has an overall responsibility for aspects, which have an impact on the conservation and management of the cultural landscape. The agency is the sole authority for the preservation of built monuments.

The Ministry for Cultural Affairs is responsible for the protection and rescue of archaeological sites, excavation, and preservation of antiquities. The Ministry of Ecclesiastical Affairs is responsible for managing churches and churchyards.

The county councils are responsible for the physical planning. The plans have a timeframe of 12 years and are revised every 4 years. The county councils have moreover competencies in accordance with the Nature Conservation Act, e.g. registration and protection of specific nature types and protection lines around historical monuments. Even though the counties do not have a specific competence in terms of preservation of archaeological sites and built monuments, they play an important role in the management of cultural landscapes. The municipalities elaborated municipal plans valid for its territory, which can entail stipulations for the preservation of urban areas. The local plans elaborated for specific areas entail binding rules for, a.o., preservation of cultural environments. Basically the county councils are responsible for the planning and management of the rural area whereas the municipal councils are responsible for urban areas.

6.1.3 Legal, administrative and planning instruments

A. Legal and administrative instruments

International conventions and treaties of relevance for the protection and management of the heritage are the Malta Convention (1992), the Granada Convention (1985), the European Landscape Convention (2000), all established within the Council of Europe and the World Heritage Convention (1972), which is a global convention.

The Malta Convention entered into force in 1995 and updates the provisions of a previous Convention adopted by the European Council in 1969. The Convention makes the conservation and enhancement of the archaeological heritage one of the goals of urban and regional planning policies. It is concerned, in particular, with arrangements to be made for the cooperation amongst archeologists and towns and regional planners in order to ensure an optimum conservation of archaeological heritage. The Convention hence basically stipulates that member states embed the archeological values in physical plans and carries out an investigation in case of major development projects, e.g., according to an environmental impact assessment. The aim is to conserve the archeological heritage in situ,

and if this is not possible to conserve it *ex situ* whilst the costs for the excavation is to be born by the originator of the plan. The Malta Convention has not yet been ratified by Germany. It is however expected that the ratification will follow soon.

The main purpose of the Granada Convention, which entered into force in 1987, is to reinforce and promote policies for the conservation and enhancement of Europe's heritage. It also affirms the need for European solidarity with regard to heritage conservation and is designed to foster practical cooperation amongst the Parties.

The European Landscape Convention aims at encouraging public authorities to adopt policies and measures at local, regional, national and international levels for protecting, managing and planning landscapes throughout Europe. It covers all landscapes, both outstanding and ordinary that determine the quality of people's living environment. The text provides for a flexible approach to landscapes whose specific features call for various types of action ranging from strict conservation through protection, management and improvement to actual creation. It also provides for a Council of Europe Landscape Award, to be given to local or regional authorities or a non-governmental organization, which introduced exemplary and long-lasting policies or measures to protect, manage and plan landscapes. The Convention has not yet entered into force.

The primary mission of the World Heritage Convention is to identify the world's natural and cultural heritage considered to be of outstanding universal value. More than 160 states have signed the Convention. It draws up a list of properties called the World Heritage List. States nominate the properties for inclusion in the List and ensure their preservation. Both natural, cultural and mixed properties can be included in the list. To be included in the List a property must meet the criteria as prescribed by the Convention for outstanding universal value. A cultural property must also fulfill a test of authenticity, and a natural property must meet the conditions of integrity. This means that it must be demonstrated that a property is something exceptional not found elsewhere in the world and that it will be preserved for future generations.

Of importance is also the European legislation relevant for nature and environment protection in the Wadden Sea Area, in particular, the Bird and Habitat Directives. Any projects or plans in the designated birds and habitat areas, consti-

tuting the Natura 2000 network, must be made subject to a proper assessment of the impacts and, in case of significant impacts, the plans and projects must not be granted. If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. This will also serve to protect the landscape and cultural-historic values of the Wadden Sea as practically the whole Wadden Sea has been or will be designated as birds and habitat areas, the so-called NATURA 2000 area.

The primary relevant instruments in The Netherlands are the Monument Act, the Nature Conservation Act and the Environment Management Act. The Monument Act enables the designation of historical buildings and archaeological sites as protected monument and village, and cities as protected contours of villages and cities. Currently there are about 46,000 protected monuments and 315 protected contours of villages and cities. 1,600 sites have been protected as archaeological monuments, however there can be more than one object per site. Recently, a large archeological site containing many objects has been legally protected as an archeological reserve as the first of its kind in The Netherlands. The Monument Act allows for granting subsidies for restoration and maintenance of historical buildings only.

The Nature Conservation Acts allows for the protection of natural monuments. Even though the primary objective is the protection of areas and objects of natural importance, the designated areas of which there are more than 200 also encompass areas of cultural-historical value as e.g. grasslands, marshes and duck decoys. Management plans can be established for such areas in collaboration with the manager and the owners. It is also possible to support the management of such areas financially. Since recently the revised Nature Conservation Act offers the provinces the opportunity to designate so-called protected landscape contours, however this possibility has not yet been used.

The large majority of the Dutch Wadden Sea Conservation Area has been declared a nature reserve. This designation will, in conjunction with the application of numerous other instruments, in particular the key planning decision,

safeguard the landscape and cultural-historic values of the area including archaeological values such as ship wrecks in the western Dutch Wadden Sea.

The Environment Management Act enables the designation of soil protection areas. Archaeological and historic landscape elements can, as has been demonstrated in various cases, play a role when a decision is taken on the designation of such an area.

In Lower Saxony, the relevant acts are the Lower Saxon Monument Protection Act and the Nature Protection Act. The Monument Act defines buildings and archaeological monuments or sites including all executive measures requiring their protection. The protection of landscape is confined to an area of the immediate environment of monuments. The classification of a historical landscape as a monument is a mere theoretical possibility. A monument is defined by its monument character itself and is immediately protected by law, which means that an official announcement is not necessary.

The Lower Saxon Nature Protection Act also allows for the protection of historic-cultural landscapes, however, this is used only to a limited extent. The Lower Saxon Wadden Sea Conservation Area is designated national park by state law. The designation will also provide for the protection of the cultural and landscape heritage.

As in Lower Saxony, the relevant laws in Schleswig-Holstein are the State Monument Protection Act and the State Nature Protection Act. The Monument Protection Act enables the protection of the cultural heritage whereas the State Nature Protection Act can be applied for the protection of historic-cultural landscapes. The Schleswig-Holstein Wadden Sea Conservation Area is designated national park by state law. The act was amended in 1999 and entailed, a.o., an extension of the territory of the national park. The National Park law provides in conjunction with the Excavation Protection Order issued for the North Frisian Wadden Sea a protection of the cultural and landscape heritage of the national park including the archaeological values of the area. The stipulations of the law restrict and forbid activities, which potentially destroy the archeological remains, respectively require a permit according to the Excavation Order.

Archaeological monuments according to the Monument Protection Act are all archaeological objects and structures that are beneath or on top

of the soil, bogs or in water. Only the registration in the monument list gives a known object a legal protection. Unmapped objects are subject to announcement to the competent authorities. Within the 4 weeks as of the announcement, they are then under temporary protection. This usually applies to construction sites where archaeological remains are affected. The State Monument Agency is allowed to stop all building actions and to survey and excavate the site. A financial contribution of the originator of the construction is not foreseen. Whereas the duration of the survey should not delay the continuation of work for too long due to financial interests.

Historical gardens and parks are generally protected. The registration in the monument list allows for an area of protection around the object or structure. The procedure of registration into the list of monuments is conducted by the intermediate authorities. Still there is a possibility of the supreme authority, i.e. the ministries, to intervene taking account of and weighing various interests. The State Development Guidelines Act provides a basic framework for the state physical plan and regional physical plans.

In Denmark, the primary relevant acts are the Nature Protection Act and the Listed Buildings and Preservation of Buildings and Urban Environments Act. The Nature Protection Act aims at protecting nature including its landscape and cultural-historic values and at improving, restoring and creating areas of significance for landscape and historical interests. The minister, county councils, municipal councils and the Danish Nature Conservation Council may propose areas to be protected to fulfill the aims of the law including cultural-historic aims. The protection is implemented by the regional protection councils and results, for privately owned land, in financial compensation or purchase by the authorities. The protection of landscape and cultural heritage by order according to the act is rarely used where the cultural heritage is the main interest.

The act entails general protection stipulations for certain habitats and for stone and earth walls. It is not allowed to change the state of those without an exemption from the county councils, which are obligated to register those habitats and the earth and stonewalls. The inclusion of earth and stonewalls contribute to maintaining historical structures in the landscape. If those objects are more than 100 years old, they can also be registered as ancient monuments

which entails a more strict regulation. Also, the construction of public facilities in the rural area must take account of the landscape and cultural historic values.

The acts furthermore entail stipulations on general protection zones. There is a general protection zone of 300 meters around churches and 100 meters around visible ancient monuments. The aim is to protect the landscape environment of the objects and the archaeological values in relations to the objects. It is prohibited to alter the state of ancient monuments. Parceling out, land registration and transfer of ownership of land, whereby new boundaries are established though ancient monuments, is also prohibited. It is prohibited to treat the soil within a distance of 2 meters of those objects. Monuments must, as a rule, be more than 100 years old to be defined as an ancient monument. Most visible monuments have a protection zone of 100 meters.

The act also protects archaeological remains on the seabed as, e.g. settlement sites, fortifications and wrecks. The monuments are protected against direct damage as well as against damage caused by alterations of the seabed.

The Act on Museums stipulates that if tombs, settlements etc. are found during excavation work, the work shall be stopped and be reported to the State Antiquary, which decides whether to perform a research excavation. If it is decided that the monument must be preserved on the spot, it will become subject to the stipulations of the Nature Protection Act.

The Listed Buildings and Preservation of Buildings and Urban Environments Act aims at protecting buildings of a special architectural and cultural-historic value which are more than 50 years old. Buildings may however be listed irrespective of their age when this is due to their outstanding value or special circumstances. The preservation order may include the immediate surroundings of buildings to the extent that they form part of a whole which is to be protected. The National Forest and Nature Agency initiates a preservation on the basis of a systematic inventory of buildings. Currently about 9,000 buildings are subject to a preservation order.

B. Planning instruments and policy plans

In the Netherlands, the state government lays down the overall guidelines for physical planning in national policy plans as the 5th National Policy Plan on Physical Planning of which a draft was issued in January 2001. The plan is subject to a hearing procedure and subsequent approval by parliament. The plan designates major parts of the dwelling mound region in the provinces of Groningen and Friesland as protected areas.

The overall protection and management of the Wadden Sea is also laid down in a national planning document, the Wadden Sea Key Planning Decision. This document is subject to revision in 2001 and it is expected that the revised planning document will entail also the protection of the cultural-historic values, the shipwrecks as one of the central aims. Other relevant policy plans are the Nature, Forest and Landscape Policy Plan, the Culture Note and the Architecture Note, all issued in 2000.

Of particular interest is the Policy Plan on Cultural Heritage and Physical Planning – the "Belvedere" Policy Plan (1999) – which entails the overall policy planning intention for the cultural heritage. The plan launches a new overall planning vision in conjunction with projects and financial support for those initiatives. Furthermore, the Act on the Restructuring of Rural Areas can be used to restructure an area taking account of the cultural-historic values.

Landscape and cultural-historic values are formally comprised by environmental impact assessment studies (EIS) in The Netherlands. However, in practice these values are not always included in EIS. The Belvedere Plan therefore declares that cultural-historic information in EIS should be sufficient and complete and should play an equal role with regard to developing and weighing alternatives. In the revised EIA Decree (1999) protected archaeological sites are added to the list of 'vulnerable areas', for which specific regulations are in force. Apart from the EIS, the Belvedere Plan encourages other authorities to make use of the so-called Cultural-historic Impact Assessment on a voluntary basis, as a support in decision making.

The provincial governments issue regional physical plans in accordance with the national guidelines. To an increasing extent, these plans take account of the conservation and development of the landscape and cultural heritage. The implementation of plans is progressively done by integrated planning, in which all sector aims are combined to a vision on the regional develop-

ment. Landscape and cultural heritage are integrated in the planning and implementation. Therefore, all three Wadden Sea provinces are performing mapping of their cultural heritage and revising their policy. The Province of North-Holland also has its own list of protected monuments.

The municipalities issue local plans, which are legally binding for the citizens. These plans do not always take full account of the cultural and landscape values although recently a significant improvement has been realized. The major problem is not the inclusion of specific conditions in the plans with respect to the landscape and cultural-historic values, but sustaining the conditions in practice.

As a specific example of a planning and management instrument can be mentioned the covenant concluded for the conservation and management of the cultural and landscape values of the Middag-Humsterland marsh area between the state government authorities, the regional governments, municipalities, the landowners and non-governmental organizations. This plan will enable the maintenance of the values and at the same time create development perspectives for the landowners and strengthen awareness and recreational activities.

Lower Saxony has both an overall state planning, as well as regional and municipal plans. The regional physical plan of the counties states the general lines of regional development and is enforced by the county councils. The statements of the regional plan have to be incorporated in the local plans. Mostly the statements of the regional plans are too general to be useful for measures of protection of cultural heritage. The local plans issued by the municipalities are crucial for the protection of the cultural remains in the planning stage. Here a detailed input of expert knowledge is possible with regard to measures for using the parcels of interest for protection. The local plans have to be incorporated in the actual building execution plans, which state the actual use of the parcels and which entail detailed stipulations on the protection.

The planning system of Schleswig-Holstein is similar to the Lower Saxon one. A state physical plan is issued by the Ministry of Rural Areas. This gives the general frame for regionally oriented development plans, also issued by the same ministry. For the North Sea coast, regional plans IV and V apply. The Ministry of Environment, Nature and Forest is responsible for the general land-

scape program. Taking this into account regional landscape development plans are issued for the regions. Plan IV and V apply to the coastal region. Preliminary versions of these two have been issued in 2001. Each community issues their own landscape plan. These plans provide measurements and requirements for nature protection and landscape maintenance. They are also a basis for planning in more thematic plans as building guideline plans (Bauleitpläne) and physical plans (Raumordnungspläne).

Landscape development plans and local landscape plans are also meant to register and assess the natural resources as well as to work out recommendations to support the protection and development of these. Landscape development plans display areas more concrete and differentiated which are pointed out in the landscape development program. Regionally important areas or those which require protection or development are added.

Landscape development plans are supposed to provide complete information on the state of nature and landscape in a municipality. They also offer recommendations for building guideline planning, city and village development in accordance with nature protection. For specific sectors in local planning there are more concrete plans, such as plantation structure plans (Grünordnungspläne). For 75% of the municipalities in Schleswig-Holstein, landscape development plans already exist. In order to ensure the integration into overall planning the items relevant for nature protection have to be included into the physical planning programs and building guideline plans. The state physical planning program of 1998 describes perspectives of general spatial development which have to be made more precise through regional development plans. Communal authorities are supposed to be involved in the process of creating physical plans.

Building guideline plans (Bauleitpläne) are made on a municipal level. Nevertheless, the state planning authorities are involved and supervise the concordance of the local plans with state planning.

The Planning Act in [Denmark](#) aims, a.o., at creating and maintaining valuable urban areas and landscapes through state, regional and local planning. The country is divided into three planning zones: an urban zone, a rural zone and a summer cottage zone. Building in the rural zone requires a permit by the county council. The Minister of Environment and Energy is responsi-

ble for planning on the national level. The state issues directives for the national planning act as basis for planning on the regional and municipal level. The regional plans are an important instrument for protection of the landscape and cultural environment. The regional plan divides the rural area into zones of particular interest. In 1997, the minister stated that the cultural-historic interests must be increased. This has been supported by a project initiated by the ministry on how to make an inventory of the values and to plan for those. Furthermore, the counties must establish guidelines for the establishment of undisturbed zones around churches in the rural area. Regional plans are not endorsed by the ministry any longer, though the ministry can decide to sanction plans which go against national interests

The municipalities are responsible for the protection and preservation of buildings and urban environments. Municipal plans are not directly binding for property owners of buildings worth preserving but they establish a framework for legally binding local plans. A local plan may prohibit parceling out, construction, regulate urban development including preserving settlements and urban environments. A local plan may contain provisions on preserving existing buildings so that buildings may only be demolished, converted or otherwise altered with the permission of the municipal council. In a local plan, the municipality may point out the total number of buildings worthy of preserving in the municipality.

The local governments are supported in their work in this field by a national inventory project for the registration of buildings and elements of buildings worth of preservation in a municipality. These municipal atlases have been made in the Danish Wadden Sea Region for Tønder, Ribe, Esbjerg and Varde, i.e. 4 out of the 9 municipalities.

C. Financial instruments

In The Netherlands, there is a comprehensive arrangement of financial instruments to support the conservation and management of the landscape and cultural heritage. These include subsidies and tax reductions for owners and other fiscal instruments.

The rules and regulations encompass, e.g., subsidies for the maintenance of historical parks, gardens and estates, contributions to valuable landscapes, nature restoration and management programs and purchase of land also with valuable cultural historic heritage. Examples of such instruments are the Nature and Landscape Management Program, which is a program for supporting financially nature management and agricultural nature management, the 'KOMPAS for the North' generates financial support from national and regional authorities alike. Provinces and municipalities all have their own rules for co-financing the conservation and restoration of landscape and cultural-historic elements such as dykes, dwelling mounds, churches, wooded banks, wheels, pools.

In Schleswig-Holstein, the financial support of monument protection is confined to the monument fund which is financed by private investors. For private monument owners applies the modernization program issued by the investment bank Schleswig-Holstein.

Financial support for nature and cultural landscape protection comes solely from the regular state budget. DM 221.5 million have been spent between 1988 and 1997 for these purposes (DM 20 mill. for nature reserves, DM 74 mill. for land acquisition, DM 116.5 mill. for nature preservation funds, DM 10 mill. for regional planning support). 7-8 % of the area of Schleswig-Holstein is subject to protection programs, which excludes the Wadden Sea National Park. The national support program for nature and landscape provides money for areas of national importance and focuses on land acquisition.

In Denmark, financial instruments are available in the framework of the Nature Protection Act for nature restoration, which will also, in relevant cases, take account of the cultural environment. Subsidies and loans can also be granted for buildings which are preserved according the Monument Act. Owners of preserved buildings can also deduct maintenance expenses in the income tax. The Urban Renewal Act also provides for subsidies for preservation and restoration of houses and buildings. Finally, it can be mentioned that annually an amount is allocated to the restoration and maintenance of ruins and ancient monuments.

6.1.4 Sector developments and the cultural and landscape heritage

The above description entails an overview of how the cultural and landscape heritage is protected and managed in the framework of the relevant laws, regulations and planning instruments. The maintenance and management of the heritage is however, to a significant extent, also determined by the sector developments which have an impact on the protection of the heritage and whether the legal, policy and management instruments for those sectors can be applied to protect and management the landscape cultural-historic values.

The integration of the protection interest in the relevant sectors can occur in concrete cases through a close contact with the relevant sector authorities in the form of making the national interest apparent and visible and by integrating the protection interests in the sector legislation, including providing for financial means. In the following, a brief outline of some of the main issues are given.

In Denmark and also in Germany, it is primarily in concrete cases in which the interests of the landscape and cultural heritage will be taken account of. One of the causes is that there has been designated no valuable cultural environments opposed to natural areas which has made distinguishable the national interests of cultural environments. Whereas there is, in principle, a potential for an integration of the natural aspect, the landscape and the cultural historic values in the Danish policy, because those interests are the responsibility of the same authority - both on the national as well as on the regional level, there are now and have been then conflicting interests in terms of, e.g. nature restoration, which may have implications on the cultural landscape. In Denmark, it is the aim to integrate the cultural environment in the regional physical planning in the forthcoming years. Pilot projects have been carried out to test methods of registration and delimitation of and planning for cultural environments.

In The Netherlands, it can easily be stated that the cultural and historical aspects of the landscape hardly played a major role by the restructuring of the towns and landscape in the period between 1945 and 1985. Housing plans, industrial parks, infrastructure and land re-allocation schemes were carried out with limited concern of the cultural values. Only major monuments and historical towns and villages were protected. At the end of the 1980s, this improved significantly and the awareness of the values of the landscape and cul-

tural heritage has rapidly grown. A totally new trend has been set by the Belvedere Plan, which is now being 'translated' into the regional Physical Planning Plans as well. This means that restructuring the landscape will take place only if the cultural-historic values are taken into account in the planning.

The physical planning is hence an essential element in carefully planning town and industrial developments, which have potentially a significant impact on the cultural landscape including developments in the rural areas.

Farming is doubtless the most essential activity, which has potentially the most significant impact on the maintenance and development of the cultural-historic landscape. Farming is predominantly subject to the common agricultural policy of the European Union and can be regulated only to a limited extent on the national and regional level.

As in other countries in The Netherlands, major changes are taking place in the agricultural structure. On the Wadden Sea islands, a development towards biological production, traditional regional products and agrarian nature management (for geese, meadow birds and vegetation) takes place. Conservation of the landscape and cultural heritage plays a secondary role. On the mainland, agrarian production is changing from bulk-production towards quality-production. Also, a broadening of products takes place. In addition to grassland and traditional products on arable land such as potatoes, sugar beets and wheat new products like bulb-fields, vegetables, maize and greenhouses have been introduced.

The development of greenhouses in, e.g., the northwestern part of Friesland draws specific attention. This development has been stimulated by the national government. The location of these enterprises did not take into account the landscape and cultural-historic value of the region. The Province of Fryslân now acknowledges this development is unwanted. For the allocation of new greenhouses, an integrated planning and design has been planned, in which the landscape and cultural-historic values will be one of the starting points. As the allocation in the small-scale dwelling mound region might be problematic, allocation in Het Bildt remains an alternative.

Incidentally, agrarian nature management and agrarian tourism plays a (minor) role in obtaining an appropriate income. Although there is some awareness of traditional regional products, this is not linked to the landscape and cultural heritage policy.

In Denmark, the county councils must designate environmentally sensitive areas in the framework of the regional plans on the basis of which environmental subsidies can be given. Those designations and other EU agricultural regulations do not take account of the cultural environment, however, it will contribute to the maintenance of the landscape heritage.

On the Dutch Wadden Sea islands, pine forestation took place in the last century to prevent the dunes to be blown away. An enlargement of these forests does not take place. The management of the dunes and the plantations is aimed at a more ecological development. On the mainland, scattered small woods are planted, especially close to villages or on the sites of former castles. A regulation to stimulate the transformation of agricultural land into plantations is hardly used. Forestation of the open marshland is undesirable from a landscape point of view. Therefore, the Province of Groningen has set strict conditions to the location whereas the Province of Fryslân leaves the decision of the allocation to the municipalities.

The network of roads has also been extended in the coastal marsh areas in the past period, both the local, regional and national networks. In Denmark, the National Forest and Nature Agency is consulted on the road constructions of national interests early in the process in the framework of the Nature Protection Law. In the approval of the construction, also account is taken of the cultural historic landscape values.

Overhead electricity cables and wind turbines constitute a potential impact on the cultural landscape. In particular in recent years the construction of wind turbines in the coastal marsh area has developed because of the policy of developing regenerating energy and the suitability for wind energy in those areas. In the Danish Wadden Sea Area, there is a regional planning for wind turbines which allows for the establishment of single turbines whilst prohibiting the establishment of wind turbine parks in the marsh area.

In The Netherlands, new national roads or railways are not planned in the marsh areas. In the approval of local and regional roads the landscape and cultural-historic values (e.g. of a dyke) is progressively taken into account. The discussion on wind turbines primarily focuses on the impact on nature and the landscape versus the environmental benefits. Increasingly policy aims at concentrating wind turbines in large parks, on industrial estates or along main infrastructure installations. The construction of solitary wind turbines is no longer allowed.

6.2 Assessment

6.2 Assessment conservation and management of the landscape and cultural heritage

6.2.1 Introduction

On the basis of the description of the conservation and management of the landscape and cultural heritage in the Wadden Sea Region in the foregoing chapter, a basic assessment is made of the current conservation and management of the heritage mapped in the current project. It provides an outline of the essential issues to be addressed. A further detailed investigation and assessment is necessary on the national, regional and local level to determine the actual issues of concern and the potential solutions to the problems. The objective of the assessment is:

- to determine the (potential) conflict and management issues relevant for the heritage, and on the basis hereof
- to enable the development of an appropriate conservation and management recommendations for the protection, management and sustainable use of the heritage.

The assessment is based on the three categories applied when dealing with the cultural-historic landscape. Landscape has been added as a fourth category because of the essentiality of the landscape dimension in the protection and management of the heritage.

As a next step an overview is given of the relationship between the elements mapped and the (potential) developments in the Wadden Sea Region. The schematic overview is followed by a thematic assessment of the conservation and management status of heritage. This approach will provide an integrated assessment of the values in terms of the objects, status of conservation and the sector impact and the acts and regulations applicable for the conservation of those values.

6.2.2 Assessment conservation and management of the landscape and cultural heritage

Table 6.1 provides a schematic overview of the elements and element types mapped and described in the project in relation to the three categories of disciplines applied.

The table noticeably indicates that the landscape and cultural heritage in terms of conservation, management and sustainable use must be approached from a multidisciplinary view. Therefore, an integrated conservation and management using a broad range of instruments is necessary.

Table 6.2 provides an overview of the potential conflict issues between the elements mapped in the Wadden Sea Region and the spatial and sectoral developments.

The primary objective of the overview is, as indicated above, to determine the main impacts on the heritage as a basis for the development of criteria and guidelines for management of the heritage. The overview demonstrates that the most potential impacts stem from the urban and industrial developments, changes in agricultural practices and infrastructure developments. Other developments can have an impact on specific parts of the heritage as well, however, to a much more limited extent compared to the impacts from the former developments. It is emphasized that the developments and conflict potential differ significantly within the region.

The elements and the element types which have been mapped in the framework of LANCE-WAD are, in principle, all of international importance and essential for the landscape and cultural heritage of the Wadden Sea Region. The overall aim should therefore be to use and, where necessary, conserve the heritage in a sustainable way. In the following an assessment is given of the current conservation and management of the heritage in conjunction with an indication of the solutions based on the thematic approach outlined above

- Landscape heritage
- Archaeological heritage
- Historical buildings and monuments
- Historical-geographic heritage

element	element-types	Archaeological heritage	Historical buildings & monuments	Historical-geographical values
dwelling mound	village/town mound – church mound - farm mound – dyke mound; round – elongated/rectangular ; not built on	+	(+)	+
village	concentric/round – elongated/linear ; mound-, dyke-, sluice(Siel)-, canal-, harbor-, road(Hufen)village	+	+	+
agrarian building	farm – adjoining building (barn/shed/haystack/granary) ; Uthländisches Haus – Geesthardenhaus – Barghus – Gulfhuis - Hallenhouse - Kop(hals)romp - Ostfiesian/Oldambtster – Haubarg/Bargscheune/stelp		+	+
charact. field pattern	radial – parallel - block ; regular – irregular ; ditches – trees –walls ; vaulted arable land	(+)		+
dyke	actual sea dyke - old dyke – summer dyke – sand dyke – dam – embankment/Sietwende	+	+	+
ditch/waterway	natural watercourse - dug watercourse/drainage canal - moat/ditch	+	(+)	+
sluice	lock/weir – sluice (Siel)	+	+	
land reclamation				+
pumping station/polder mill	pumping station – polder mill ; tjasker – Dutch windmill – American windmill	+	+	
freshwater supply	pool (Fething) – ring dyke pool – water tower – well - Scheetel (rain water collection system)	+	+	+
wheel/breach pond				+
city	town rights		+	+
maritime settlement		+	+	+
fishery and hunting	fishery – hunting ; duck decoy ; camp site	(+)	+	+
harbor	harbor (in use) – old harbor – embarkation place – anchorage	+	+	+
places of craft and industry	craft; ship wharf – industrial factory – milk/fodder factory – fish factory – mineral assimilation	+	+	
navigation	lighthouse – rescue station – seamark	(+)	+	
bridge, ferry, ford	fixed bridge – movable bridge – ferry – ford	+	+	+
mining	clay-, sand-, peat-, salt-, shells/chalk-, gas/oil mining	+	+	+
canal (<i>transport</i>)	canal			+
road, path, rail	road – path – railway ; towing path – church path – ring road – ravine – military road – dyke passage	(+)		+
shipwreck	on land – in sea	+	+	
place of trade and travel	market place- inn – station - storehouse	+	+	
(industrial) mill	windmill – watermill ; sawing mill – graining mill – oil mill – paper mill	+	+	
castle/manor/estate	castle – stronghold – manor/estate ; garden/park	+	+	+
church	church – chapel – synagogue ; belfry – bell cage	(+)	+	+
monastery		+	+	+
burial place	church yard – Jewish graveyard – burial field – burial mound – chambered tomb	(+)	+	
communal and other building	urban ensemble - dwelling house – town hall – court house – water board building – dyke storehouse – school	(+)	+	+
historical place	historical place – pilgrimage – memorial stone/statue	+	+	
military object	naval harbor – bunker/casemate – defense line – fort/sconce – fortification (city)	+	+	
tourism/recreational facility	skating ground - fivel ground – skating tour – walking tour - hotel		+	+

Table 6.1:
Elements and categories

Table 6.2:
Elements and sectoral and
spatial developments in the
Madden Sea Region

element	element-types	Town/ Industry	Agri- culture	Forestry	Infra- structure	Tourism/ Recreation	Fishery	Nature/ Water
dwelling mound	village/town mound – church mound - farm mound – dyke mound; round – elongated/rectangular ; not built on	+	+		+	(+)		
village	concentric/round – elongated/linear ; mound-, dyke-, sluice(Siel)-, canal-, harbor-, road(Hufen)village	+			+	+		
agrarian building	farm – adjoining building (barn/shed/haystack/granary) ; Uthländisches Haus – Geesthardenhaus – Barghus – Gulfhaus - Hallenhouse - Kop(hals)romp - Ostfiesian/Oldambtster – Haubarg/Bargscheune/stelp		+					
charact. field pattern	radial – parallel - block ; regular – irregular ; ditches – trees – earthen walls ; vaulted arable land	+	+	+	+			+
dyke	actual sea dyke - old dyke – summer dyke – sand dyke – dam – embankment/Sietwende		+		+			+
ditch/waterway	natural watercourse - dug watercourse/drainage canal - moat/ditch	+	+		+			+
sluice	lock/weir – sluice (Siel)	+			+			+
land reclamation			(+)		+	+		+
pumping station/polder mill	pumping station – polder mill ; tjasker – Dutch windmill – American windmill	+	+		+			+
freshwater supply	pool (Fething) – ring dyke pool – water tower – well - Scheetel (rain water collection system)	+	+		+			+
wheel/breach pond			+		+			(+)
city	town rights	+			+	+		
maritime settlement		+			+	+		
fishery and hunting	fishery – hunting ; duck decoy ; camp site	+	+					+
harbor	harbor (in use) – old harbor – embarkation place – anchorage	+			+	+		+
places of craft and industry	craft; ship wharf – industrial factory – milk/fodder factory – fish factory – mineral assimilation	+	+		+			
navigation	lighthouse – rescue station – seamark	+			+			
bridge, ferry, ford	fixed bridge – movable bridge – ferry – ford	+			+			
mining	clay-, sand-, peat-, salt-, shells/chalk-, gas/oil mining	+			+			+
canal (transport)	canal	+			+			

element	element-types	Town/ Industry	Agri- culture	Forestry	Infra- structure	Tourism/ Recreation	Fishery	Nature/ Water
road, path, rail	road – path – railway ; towing path – church path – ring road – ravine(Hohlweg) – military road (Heerweg) – dyke passage	+	+	+	+			
shipwreck	on land – in sea	+	+		+		+	
place of trade and travel	market place- inn – station - storehouse	+			+			
(industrial) mill	windmill – watermill ; sawing mill – graining mill – oil mill – paper mill	+						
castle/manor/estate	castle – stronghold – manor/estate ; garden/park	+	+		+			
church	church – chapel – synagogue ; belfry – bell cage	+			+	+		
monastery		+			+	+		
burial place	church yard – Jewish graveyard – burial field – burial mound – chambered tomb	+			+			
communal and other building	urban ensemble - dwelling house – town hall – court house – water board building – dyke storehouse – school	+			+	+		
historical place	historical place – pilgrimage – memorial stone/statue	+						
military object	naval harbor – bunker/casemate – defense line – fort/sconce – fortification (city)	+	+		+			+
tourism/recreational facility	skating ground - fivel ground – skating tour – walking tour - hotel	+			+			+

Table 6.2:
continue

6.2.3 Landscape heritage

Assessment and issues of concern

It is difficult to assess the status of the landscape heritage, in particular, in terms of the non-physical aspects such as the open horizon and the natural components. Those non-physical values are basically generally vulnerable since those are difficult to describe and delimiting in terms of what are acceptable changes. The decision is in this respect very much up to subjective assessments. The non-physical landscape values are therefore notably threatened, though those values are perceived as essential values for experiencing the landscape. The legal, planning and management instruments available are generally insufficient to maintain those values.

A major issue of concern in this respect is that the landscape scenery is often viewed as the beautification of the environment. It is not a leading motive for spatial planning in the sense that it needs active attention for maintaining the values. Whereas the landscape scenery is a growing concern in terms of policy and management, there is a lack of a clear description of the characteristics of the landscape scenery, which is suitable as an input to planning, and on which new developments, potentially affecting the landscape scenery, can be assessed.

Potential solutions

The landscape heritage must be addressed in general by a comprehensive application of environmental legislation, sector instruments and planning schemes. The conservation, management and sustainable use of the landscape assume a comprehensible description and characterization of the values including an assessment of the impacts of new developments of the landscape values.

There is additionally a limited wish to use the landscape heritage values in the planning and management of the landscape. Some of the sector legislation gives the ability to cover the non-physical characteristics in an overall description. The scenery of an area is simply included in the protection and new developments are in principle regarded as damaging.

6.2.4 Archaeological heritage

Assessment and issues of concern

Regardless of some differences in the Monument Acts of the four countries, it can be stated that all known archaeological monuments are in general sufficiently protected. In Germany, protection of newly found sites is easier, but this is a point of minor importance having little influence on the archaeological practice. Legal protection means that changing the existing situation is prohibited unless a formal permission is given, which has to implement the goals of monument protection. It has to be acknowledged, however, that the existing situation is not always the best conservation status for the monument. Monument Acts do prevent the conditions getting worse, but cannot improve monument conservation circumstances.

In addition to the appliance of the Monument Acts, the authorities have to consider monuments in their physical planning. These procedures have a large impact on monument conservation, because of the necessary awareness of the officials on all government levels for problems of monument care. By means of physical planning it is also possible to improve the conservation status by implementing specific measures leading to better conditions.

An issue of concern is the protection of archaeological sites ranging in status below the monuments, because of the limited information available. In all countries, these sites must be regarded as highly endangered. In many cases the monument services do not have the appropriate resources for a proper assessment of the value of these sites since such assessments are time consuming and demand sufficient staff.

Another issue of concern is the general absence of adequate procedures with regard to site management, i.e. to protect the monuments against non-visible factors of destruction like drying-out of wetland sites by drainage or lowering the groundwater table. This is to be considered a significant issue because of the losses in the intrinsic monument qualities of the site itself. The main reason for the restricted involvement of the monument services seems to be the disproportion between the huge amount of objects and the limited staff resources.

Potential solutions

Archaeological sites ranging below the monument status can additionally be protected by physical planning procedures by adding them to

the regional and local plans. Theoretically, it is also possible to influence the management conditions in this way, but needed – and mostly missing – is a detailed and well-defined knowledge about the site conditions. This requires, however, a high amount of expert involvement from the archaeologists of the monument services, which is difficult in light of the limited financial and staff resources.

Incidentally applying the Nature Conservation Acts as well as a close cooperation with the nature conservation authorities can be helpful in influencing the vicinity of the monuments. However, it must be acknowledged that the matching of issues of nature and cultural conservation in practice remains a rather random phenomenon. It can be stated that especially the efforts in enhancing the awareness of the cultural heritage for a wider audience is very helpful including raising and maintaining awareness of planning partners, and hence widening the opportunities provided by means of physical planning and nature conservation.

6.2.5 Historical buildings and monuments

Assessment and issues of concern

In general the historical monuments and buildings are appropriately protected and managed. The monument acts provide an appropriate protection of the individual monuments. A concern is the protection of the monuments in terms of their environment. The monument acts can only provide limited protection of the surroundings. The protection of urban settlements and buildings in total can only be provided in the framework of local plans.

Another issue of concern is that a legal protection of a monument cannot ensure that the monument will be protected and maintained to the extent necessary. The owner of the monument has a large say in this respect. Finally, in some areas the registration and hence application of instruments are insufficient.

Potential solutions

An important element in the protection and management of the buildings and monuments are further registration and description of the heritage as basis for applying the available instruments including local plans. Local plans should be applied to a larger extent to ensure that the monuments and their environment is protected in an appropriate way.

6.2.6 Historical-geographical heritage

Assessment and issues of concern

The historic-geographic values are compared to the archaeological heritage and the historical buildings and monuments more endangered in terms of conservation and sustainable use. The typical elements of this heritage, being the dwelling mounds, the old dykes, roads and field patterns, are subject to use and development, as they always have been to a different extent through the entire period of settlement. These developments have continuously been absorbed and now form part of a valuable landscape.

The cultural landscape is however under rapid transformation. A major issue of concern has been and is the development in agricultural praxis within the last generation thorough changes in production. This has resulted in, e.g., enlargement of the parcels, alterations of water courses, excavation of old dykes and leveling of mounds which significantly changes the historic-geographic heritage. Infrastructure projects, urban and industrial developments have potentially similar impacts on the values.

A further issue of concern is the lack of knowledge on the significance and character of the historic geographic elements and structures. They are intricately linked to the landscape and cultural heritage of the region. There is limited knowledge on how to fit in new developments into the existing landscape and yet possibly enhance those values.

Potential solutions

The historic-geographic elements and structures need a comprehensive protection in terms of applying the appropriate legal and management instruments on all levels. Currently a comprehensive protection is only possible to a limited extent within the framework of spatial planning on the regional as well as on the local level. Spatial planning can however provide opportunities for managed development. More comprehensive and in some cases compulsory protection and management schemes are necessary. Such schemes may be combined with management agreement with the relevant stakeholders or may be an alternative to more compulsory schemes.

A further essential element is awareness raising of the historic-geographic values. Many stakeholders carry the responsibility for the protection and wise use of the heritage. In this connection, the development of expertise in the field of combining new developments with the existing heritage is of essential importance.

6.3 Sustainable management

6.3 Sustainable management and use of the landscape and cultural heritage. Visions, targets and strategies

6.3.1 Introduction

The overall objectives of the LANCEWAD project are, in addition to the inventory and valuation of the landscape and cultural heritage in the framework of a geographical information system (GIS):

- to outline the development possibilities, conflict issues and decision-making demands with regard to the rural area of the Wadden Sea Region and to contribute to the development of a spatial vision including land use and proposals for spatial planning to also ensure the integration of the landscape and cultural heritage in the overall spatial planning on levels of government in the Wadden Sea Region;
- to initiate the development of proposals for promoting the future sustainable use of the landscape and cultural heritage of the Wadden Sea Region including proposals for policy and management concepts and measures to further protect and manage the landscape and cultural heritage and the promotion and strengthening of, e.g., cultural tourism; and
- to contribute to raising the awareness of the landscape and cultural heritage of the Wadden Sea region.

Further, the project should contribute to promoting the integrated management of the landscape and cultural heritage within a long-terms spatial vision of the North Sea region.

The Wadden Sea Plan (WSP) entails the joint trilateral policy and management for the landscape and cultural heritage. The Targets are the focal point of the trilateral policies and management. 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 (SI, 9 Wadden Sea Plan).

On the basis of the results of the inventory of the landscape and cultural heritage of the Wadden Sea Region including the description and evaluation of the regions and the assessment of the current conservation and management regime, Targets, Visions and Strategies can be developed in terms of recommendations for future sustainable management and use.

The Vision is an overall statement on the future of the landscape and cultural heritage of the Wadden Sea Region. The Targets refer to the Targets for landscape and culture as politically endorsed by the three Wadden Sea countries and entailed in the Wadden Sea Plan. The Targets make the Vision operational and guide the development of Strategies and their implementation. The Strategies encompass the implementation of the Targets guided by the Vision. As indicated in fig. 1 three levels of Strategies can be discriminated: the legal, planning and management level, the (establishment of the) knowledge basis and awareness building. Further hereto issues related to monitoring, research and follow-up projects will be addressed.

6.3.2 The Vision

As indicated in the Wadden Sea Plan, section II, 1 the cultural-historic and landscape values of the Wadden Sea Region 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 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. 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. 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 dimen-

sions. The integration of all three dimensions into a coherent policy and management is essential to ensure a sustainable development.

The overall vision recommended to inspiring the long-term conservation, management and sustainable use of the landscape and cultural heritage of the Wadden Sea Region:

The Vision

For already more than 2000 years, the landscape and cultural heritage of the Wadden Sea Region has displayed the richness of the specific nature of the Wadden Sea and the unique interaction with man to its full extent. The overall landscape characteristics entail the wide open skies, the straight horizon, the clear transition between sea and land, the notion of being engulfed by nature on the sea side; and on the land side, the dwelling mounds, dykes and the settlements as green oases in the open fields. In the inhabited areas, the different characteristics of the landscape and cultural heritage of the several sub-regions can be clearly distinguished. The cultural heritage is well kept and (re)used. New developments show new "faces" fitting into the "old portraits" enriching them and telling the continuing story of living in the Wadden Sea Region, a landscape of world uniqueness.

Fig. 6.1:
Vision, targets and
strategies



6.3.3 The Targets

a. Issues

The Targets for landscape and culture as entailed in the WSP are:

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.

The policy and management of the WSP with regard to landscape and culture entails the following relevant agreements:

- The nomination of the Wadden Sea, or parts thereof, as a World Heritage Site will be striven for, taking into account the natural and cultural historic values of the area.
- The cultural-historic and landscape elements of the Wadden Sea Area will be protected and conserved through appropriate planning and management.
- The awareness of the area's cultural-historic and landscape values will be enhanced, where possible and appropriate, on a joint basis.

In order to implement these agreements, it was acknowledged that, as a first step, it was necessary to enhance the knowledge in this field to ensure that the available information would be on the same level as with regard to natural heritage.

The LANCEWAD project has made an inventory and valuation of the central elements and element-types of the Wadden Sea Region as agreed in §37 of the Stade Declaration. On the basis of hereof, it can be concluded that the Targets for landscape and culture as entailed in the Wadden Sea Plan on IDENTITY, VARIETY, HISTORY and SCENERY are the central targets for joint policy and management in this field. As agreed in the WSP the cultural historic and landscape values are equivalent to the area's natural values.

As LANCEWAD has convincingly demonstrated the majority of the joint landscape and cultural heritage of the Wadden Sea Region is located outside the Wadden Sea Area. In further developing common policies and management for the landscape and cultural heritage, it is necessary to focus on the larger Wadden Sea Region as defined in LANCEWAD taking account of the specific management issues of the Region and hence applying the Targets to the Wadden Sea Region. Though, as indicated below, the nature and environmental policies and the policies for the landscape and cultural heritage must be seen as complementary, it is essential to discriminate between those policy themes.

The Targets as entailed in the WSP are, however, in principle valid for the Wadden Sea Area (the area of the trilateral cooperation). The Wadden Sea Area is basically delimited by the area seaward of the main dyke, or where the main dyke is absent, the spring-high-tide-water line, and in the rivers, the brackish-water limit and an offshore zone 3 nautical miles from the baseline including the corresponding inland areas to the designated Ramsar and/or EC Bird Directive areas and the islands.

b. Recommendations

The Targets for landscape and culture as entailed in the Wadden Sea Plan on IDENTITY, VARIETY, HISTORY and SCENERY are the central targets for joint policy and management of the landscape and cultural heritage of the Wadden Sea Region. It is therefore recommended

A1. To apply the Targets for Landscape and Culture as entailed in the Wadden Sea Plan to the Wadden Sea Region acknowledging that a clear discrimination must be made between the nature and environmental policies applicable to the Wadden Sea Area and the policies and management for the landscape and culture being applicable for the Wadden Sea Region, as expressed in the Visions and the Strategy.

Whereas the Targets for landscape and culture are recommended to be applicable to the Wadden Sea Region, the Targets relevant for the nature and environment are applicable to the Wadden Sea Area. It should be communicated to the stakeholders and the inhabitants in the region that a clear distinction will be maintained between the Wadden Sea Area and the Wadden Sea Region. Though these policy and management disciplines are complementary, they are also dissimilar in objectives.

6.3.4 The Strategies

a. Issues

In regard of the Targets, it is essential to emphasize as has been demonstrated in the LANCEWAD project that the Wadden Sea landscape has been subject to continuous changes throughout history. The Wadden Sea landscape is not static but always evolving. Though the current changes to the landscape and cultural heritage constitute significant impacts also in a historic perspective, the protection and sustainable management of the elements and element types is only conceivable in the framework of a management of the developments. The cultural landscape values can only be maintained by also ensuring its sustainable use by the inhabitants of the region. The overall long-term management strategy underlying the management, and linking targets and management must therefore be managed development ("Schützen durch Nützen"). This strategy is of even greater importance for the current management since the changes in the landscape and cultural heritage in the last decades have

evolved more far-reaching and fundamental than compared to centuries before.

Closely related to this strategy is that nature and environmental policies and management, and cultural and landscape heritage management must be comprehended as complementary components. Though nature and environment management has a different focus than the management of the cultural-historic landscape and its heritage, they are to be conceived complementary and mutually reinforcing. It concerns in principle the conservation and sustainable management of a comprehensive natural and cultural landscape which has been shaped throughout centuries. The landscape of the Wadden Sea Region within the current seawalls and on the islands bears witness of Man's strife with the natural forces, which can best be apprehended in relation to the natural environment of the Wadden Sea outside the current seawalls. Whereas correspondingly the protection of the natural environment of the Wadden Sea can be comprehended as a priority by society, also in relation with the ensuing frictions with the inhabitants of the cultural landscape of the Wadden Sea Region.

Though it has been agreed to pay attention to the cultural environment as the third dimension in the trilateral cooperation in addition to the natural and environmental management the integration of all three dimensions into a coherent policy and management must be accepted as a guiding management principle to ensure a sustainable development. At the same time however it must be clearly stated that this will also require a specific and differentiated implementation of the three dimensions. Nature and environmental conservation remains the primary objectives for the Wadden Sea Area and the Conservation Area whereas for the Wadden Sea Region, the primary objective is a sustainable use of the landscape and its heritage.

In order to strengthen the policy and management for the cultural-historic landscape and to make it an equal dimension to the natural and environmental dimension, the awareness of the landscape and cultural heritage of the Wadden Sea Region must be enhanced and be an integrated part of the policies and management of all levels of government (national, regional and local). The international importance of the heritage being the expression of a common heritage is an essential element in the awareness building, in particular, because there is also a joint responsibility for the management of the her-

itage. More importantly the local stakeholders must be given a larger say in the management of the cultural-historic landscape in order to give substance to the overall guideline of managed development.

This aim is essential in order to maintain and, where necessary, establish the identity and supporting the attainment of the Targets. This will also contribute to creating an understanding of the perception of the landscape and its values by a broader community and thus support sustainable development and use.

b. Recommendations

The Targets for landscape and culture must be supported by an overall strategy in terms of general management guidelines, which should be implemented as general principles in the overall policy and management. These include the following recommendations:

B1. To implement, as a guiding principle for the conservation and management of the landscape and cultural heritage of the Wadden Sea Region, linking targets and management by the principle of managed development of the heritage ("Schützen durch Nützen").

B2. To use the landscape and cultural heritage as an opportunity for enhancing the spatial quality and improving and reinforcing the social economic structure of the region.

The Wadden Sea landscape has been subject to continuous changes throughout history. Though the current changes to the landscape and cultural heritage constitute significant impacts also in a historic perspective, the protection and sustainable management of the elements and element-types is only conceivable in the framework of a management of the developments. The cultural landscape values can only be maintained by ensuring its sustainable use also by the inhabitants of the region.

B3. To involve stakeholders in the management of the heritage through a participatory and interactive process.

The principle of managed development can only be successfully implemented if the relevant stakeholders (owners, users, visitors and others having a stake in the region) have a say and are involved in the planning and management of the heritage.

B4. To integrate the policy and management of the natural, environmental and cultural environment with regard to the Wadden Sea nature and landscape heritage in order to complement and mutually reinforce conservation and sustainable management.

The management of the cultural-historic landscape and its heritage and the conservation of the Wadden Sea are to be conceived complementary and mutually reinforcing. It concerns in principle the conservation and sustainable management of a comprehensive natural and cultural landscape which has been shaped throughout centuries.

B5. To enhance the awareness of the landscape and cultural heritage of the Wadden Sea Region being the expression of a common transboundary heritage of international significance by responsible authorities in conjunction with an involvement of local interests and expert groups.

Raising the awareness of the uniqueness and disseminating the knowledge of the heritage is an essential prerequisite for strengthening the policy and management for the cultural-historic landscape and making it an equal dimension to the natural and environmental dimension. This can also be achieved by implementing practical transboundary projects for maintaining and where necessary restoring heritage elements.

6.3.5 Conservation, planning and management

The elements and element-types registered and valued in the LANCEWAD project are part of an international important heritage which should in principle all be conserved for current and future generations. They are important for the history and identity of the Wadden Sea Region. The existing national and international legal and planning instruments and management activities should contribute to safeguarding this heritage for posterity.

There are four relevant levels of management

- legal instruments and regulations including international instruments
- physical planning by the national, regional and local governments
- policy plans by governments
- management of the heritage by authorities and organizations

6.3.5.1 Legal instruments and regulations

a. Issues

National legal instruments and regulations

From the description and the assessment of the conservation and management of the heritage, it appears that there is a difference between the legal protection of the elements of the heritage registered. Apparently the most appropriate legal protection is provided for the archaeological and the historical buildings though there are major differences in terms of the number of objects subject to conservation between the regions. A legal protection of a monument cannot always ensure that the monument is maintained in an appropriate state of conservation. Alternatively the object has to be purchased and maintained by state authorities which is mostly an expensive solution. It is recommendable to explore regionally on the basis of the registration within the LANCEWAD project the legal status of protection with a view to assess whether it is necessary to extend the current legal protection. The existing instruments should be applied in an effective, harmonized and consistent way to provide for the best possible protection of the heritage of the Wadden Sea Region. In this context, specific attention should be paid to specific regions with specific values.

The Danish Nature Protection Acts entails interesting stipulations. Certain natural features but also cultural landscape features like earth and stonewalls are generally protected according to the Act, which implies that those features cannot be changed without a permit. The Act also establishes a general protection zone around certain monuments. The German Federal Nature Protection Act and the state nature protection acts also establishes a general biotope protection system, which can indirectly also protect landscape and cultural features. The protection of the latter are however not encompassed by the acts. The implications for the landscape and cultural heritage for the Wadden Sea Region is however very limited. In view of the international importance of many of the elements of

the Wadden Sea Region, in particular, for those not found elsewhere like mounds and dykes such a system of general protection would be advantageous. Such a regime is not a legal protection in the traditional sense but would establish a system of permits for changes to the object. Whether amendments of national legislation to that effect is feasible is doubtful. The current Monuments Laws provide for a protection of the imminent environment but cannot provide for a protection of cultural landscapes.

Most importantly, however, it seems that the legal protection cannot provide for the protection of the entire cultural and landscape environment, which is probably the most essential feature to protect. Without an appropriate protection and management of the entire cultural landscape environment in terms of ensembles, the heritage will lose a significant part of its value. There are only very few examples of the protection of entire cultural landscapes. The protection of the Tønder Marsh is probably the best example, which was made subject to a protection by a separate law in 1988 with the aim to protect its environmental and landscape values. The law has apparently been very successful in maintaining the landscape values in terms of the openness of the landscape and a functioning ditch system whereas the environmental objectives have not been met. The project has been very costly and its objectives can only be achieved in collaboration with the landowners through subsidies and compensation schemes. Such an approach is therefore only applicable in exceptional cases.

The Wadden Sea Conservation Area encompassing the German national parks, and the Dutch and Danish nature reserves, is subject to a legal protection according to the nature protection acts. This regime also provides, to a large extent, a protection of the cultural and landscape heritage, but the protection cannot be extended to the cultural heritage in all cases, as outlined above. The Dutch protection regime for the Wadden Sea as embedded in the physical key planning decision will be amended in the near future. The draft decision, which is currently subject to a public consultation, entails a protection of the characteristic landscape and cultural heritage such as the shipwrecks. On the amendment of the legal regimes in the other countries, stipulations should be included in the relevant Acts and Orders to the effect that the cultural heritage, like ship wrecks and salt extraction sites, is also protected.

The environmental impact assessment as implemented in the countries can take account of the landscape and cultural heritage in case an environmental impact study is carried out. The current practice however is that this is done only to a limited extent and only in specific cases. The Inter-regional Wadden Sea Cooperation (IRWC) exchanges information on studies and assessments carried out in the Wadden Sea Region. The IRWC has promised to study the aspects of the cultural and landscape heritage in relation to the environmental impact assessments after the finalization of the LANCEWAD project. It is therefore suggested that the IRWC does this work in the coming period and develops recommendations for how the landscape and cultural heritage of the Wadden Sea Region can best be integrated in the environmental impact assessments, which will be carried out in the region. This could also include considerations as to whether a special cultural (environment) impact assessment should be made in the case of specific projects, which are not covered by regular impact studies. This could also be considered to be extended to cultural landscapes.

International legal instruments

The European Landscape Convention, the European Convention on the Protection of the Archaeological Heritage (the Malta Convention) and the Convention for the Protection of the Architectural Heritage of Europe (the Granada Convention) are all international instruments. Once they have been ratified and implemented in national law, they can support the conservation and management of the Wadden Sea Region's heritage.

A further important international convention of relevance for the Wadden Sea Region is the World Heritage Convention (1972). The primary mission of the convention is to identify the world's natural and cultural heritage considered being of outstanding universal value. More than 160 states have signed the Convention. It draws up a list of properties called the World Heritage List. The World Heritage Convention links the conservation of nature and culture. Nature and culture are complementary and inseparable. By signing the World Heritage Convention, the three countries have committed themselves to identify and protect the world's natural and cultural heritage considered to be of outstanding universal value. The Wadden Sea represents an area of exceptional worldwide significance. In accordance with the decisions of the 1997 Wad-

den Sea Conference, the inscription of the Wadden Sea Conservation Area in the World Heritage List is currently being discussed.

As has been demonstrated in the LANCEWAD project, the Wadden Sea Region also represents a unique cultural and landscape heritage worthy of greater recognition. A heritage that has potentially an outstanding universal value. The recognition of this heritage by inscription in the World Heritage List would generate benefits for the region in terms of, e.g. tourism. The potential nomination would be in accord with the objective of integrating the three dimensions of policies and management.

The Wadden Sea has been placed on the tentative list, also as a potential cultural heritage. On the basis of the results of primarily the LANCEWAD project, as a first step, it can be ascertained that the Wadden Sea Region would potentially qualify for being inscribed as a cultural heritage and a cultural landscape in the World Heritage List in accordance with the operational criteria of the Convention. Alternatively, if after a more in-depth examination of the properties and the criteria, it would be concluded that the entire area would not qualify for a nomination, the areas that would meet the criteria should be identified and delimited.

As a next step the institutional, legal and management regime required for such areas should be developed in full cooperation with the local stakeholders in order to meet the criteria for a nomination for cultural landscapes. The Operational Guidelines demand that a nomination of a cultural landscape is prepared and submitted in full consent with the local population. It is assessed that a process to establish the pre-conditions for a nomination will extend over several years.

It would be advisable to carry out an independent feasibility study on the nomination of the Wadden Sea Region for inscription in the World Heritage List as a cultural landscape to enable a thorough assessment of the issues raised in the foregoing. The feasibility should hence investigate whether the Wadden Sea Region would qualify for nomination according to the Guidelines, including a proposal for the area to be nominated and an assessment as to whether the requirements in terms of protection and management of the values are met, respectively which further measures are necessary to meet those requirements. Finally, the feasibility study may include suggestions on how to organize the consultation process.

b. Recommendations

In terms of legal instruments and regulations it is recommended:

C1. To examine how the existing legal instruments and regulations can be more effectively implemented to ensure an appropriate protection of the landscape and cultural heritage of the Wadden Sea Region as registered in the LANCEWAD project.

It is recommendable to explore regionally on the basis of the registration within the LANCEWAD project the legal status of protection with a view to assess whether it is necessary to extend the current legal protection of the elements and objects registered.

C2. To include, when the legal protection regimes for the Wadden Sea Conservation Area are amended in due course, as appropriate, the protection of the cultural and landscape heritage in the conservation regime in order to ensure that this will also be covered by legal protection respectively will be subject to a system of permits and exemptions.

The Wadden Sea Conservation regime should also include the protection of the cultural and landscape heritage to the extent this has not yet been done.

C3. To aspire the nomination of the Wadden Sea Region or parts hereof for inscription in the World Heritage List for its universal landscape and cultural heritage and, as a first, to elaborate a feasibility study to assess whether the Wadden Sea Region or parts thereof would meet the criteria as entailed in the UNESCO Guidelines. The study should include an assessment of the area to be nominated and the requirements in terms of the institutional, legal and management regime. The study should also provide suggestions for the consultation process to meet the requirements of the Guidelines.

The Wadden Sea Region or parts thereof would potentially qualify for being inscribed in the World Heritage List. This would potentially provide benefits to the Wadden Sea Region and be in accord with the Vision. These areas must be identified and delimited and their conservation and management must be secured in agreement with the stakeholders. As a first step, an inde-

pendent feasibility study should assess whether the Wadden Sea Region or parts thereof would meet the criteria of nomination, as entailed in the UNESCO Guidelines, and provide a firm basis for the consultation process with the stakeholders of the Region.

C4. To invite the Inter-regional Wadden Sea Cooperation to develop proposals for how the environmental impact assessment can also include the landscape and cultural heritage of the Wadden Sea Region respectively whether the implementation of specific cultural (environment) assessments can be implemented.

The Inter-regional Wadden Sea Cooperation (IRWC) has agreed within the framework of the trilateral cooperation to exchange information on environmental impact assessments carried out in the Wadden Sea Region with a view to share experiences and elaborate suggestions for harmonization. It would also be appropriate to invite the IRWC to look at the landscape and cultural heritage in this respect in terms of as to whether this is appropriately covered by the current environmental impact assessments and/or whether specific cultural (environment) impact assessments could be recommendable.

6.3.5.2 Physical planning

The majority of the landscape and cultural heritage has a spatial dimension and can only be managed through an integrated spatial planning. Physical planning is hence the central planning instrument for ensuring a sustainable use of the cultural and landscape heritage. The regional level is the appropriate level for integrated planning in the three countries for developments with a spatial feature. The regional spatial planning does currently not or only to a limited extent take account of the landscape and cultural heritage of the Wadden Sea Region. It is therefore recommendable that the results of the LANCEWAD project are assessed from the perspective of spatial planning. The cultural and landscape heritage must be included in the plan development to the same extent as other interests.

a. Issues

The main items of interference with the valuable elements, structures and landscape/scenery are the development of towns and industry (new areas, new building), agriculture (enlargement of scale, intensive practice of cropping) and developments in infrastructure (new sections, improving existing infrastructure). In all three countries, physical planning is used for managed protection and development of elements and structures in its (wider) environment whereas the protection of elements itself is mainly ruled by sector legislation with an exception for the historic-geographical elements which are mostly protected by physical plans. Even so, the actual integration of valuable elements and structures and landscape/scenery characteristics in executing physical planning as well as the maintenance of protection need much more attention in all three countries.

On the levels of state and region, attention is still growing for preservation and a proper management of landscape as a whole/the scenery, with items as open space, straight horizons and different identities of areas. Nevertheless, the actual implementation in concrete regional and local (legally binding) physical plans is still a case of great concern. The main problem is often the lack of a proper description of the characteristics of the landscape/scenery suitable for using in planning schemes. Related to this the awareness and the will "to do something with it" are low. Protection of landscape by some of the sector legislation gives the ability to cover the values of the landscape/scenery in an overall description. In physical planning, there is always the need to translate into physical "demonstrable" items.

On the level of wetland archeological elements (sites), the protection by physical planning of, in particular, the environment of the site is more or less adequate; there are problems concerning management in terms of erosion by current use. In addition to legislation, the use of the possibilities of physical planning asks increasingly to solve this. Concerning historical buildings and structures, protection and a frame to consider space for developments is, in principle, appropriately provided for by, in particular, the local planning level. This counts for both individual buildings and building structures. In the Netherlands, as in the other countries, in many cases historic-geographical elements and structures need still more and better protection in the local physical plans in particular. At the

same time, this will give good opportunities for managed development of these elements and structures being of essential spatial importance as carriers of the identity of the area.

b. Recommendations

The majority of the landscape and cultural heritage has a clear spatial dimension and can only be managed properly by integrated physical planning. Physical planning is the best tool to bring "old" heritage and "new" developments together or, when needed, to keep them apart each with its own value. In particular it offers the possibility to preserve ensembles of valuable elements and structures of the cultural heritage. Physical planning is hence to be the central planning instrument for ensuring a sustainable use of the landscape and cultural heritage. The regional and especially the local legally binding levels are the most important for the actual "day-to-day" management. In executing these levels, however, there is currently only taken limited account of the values of the landscape and the cultural heritage. Also, improvement is needed in the maintenance of the heritage. The main overall reason is lack of knowledge very often followed by the lack of vision of how to deal with keeping old values and give space to new developments, and finally no proper description of the values exist.

To improve an effective use of physical planning, it is necessary to enhance the availability of information about the landscape and cultural heritage, to make obligatory the use of knowledge about the landscape and cultural heritage values in developing physical plans, and to demand an equal balancing between landscape and cultural heritage and the other physical interests.

D1. Landscape and cultural heritage must be treated as an equal interest to other interests in physical planning on all levels.

The landscape and cultural heritage nowadays is not only seen as an occasional product of interaction between Man-wanted functions and his environment, but it is also regarded as a function in itself. It is felt as an important factor in the well feeling in the every day live of inhabitants as for recreation and tourism in particular. In fact one of the most important economic functions in the Wadden Sea Region, being tourism, rests to a certain extent on landscape and cultural history values. Therefore, it is necessary to

give landscape and cultural heritage the same weight in the integral weighing of functions in developing physical planning. In fact landscape and cultural heritage should be the basic frame for physical planning, using the characteristics of the specific identity as guidelines for preserving and new developing.

D2. Sustainable spatial management of the landscape and cultural heritage in relation to new developments should preferably be done in the framework of physical planning with special attention to including conditions concerning preservation and re-use of cultural heritage.

Whether on the level of elements, ensembles or overall landscape values as straight horizon, the interests of protection and managed development are best served by using physical planning, especially in areas with intensely developing functions like housing and industry and even agriculture concerning new branches and new cultures. This demands good mapping in advance and making choices of what to preserve and how to use it, e.g., in case of archeological values in nature developing areas. In areas with less (wanted) dynamic, the use of relevant sectoral legislation can be considered, in particular, if the legislation can cover the whole of the values and the greater part of the (whole) of the values, i.e., landscape/scenery is original and practically undamaged. Special attention should be given to including conditions in the physical planning schemes, which are important for preservation or use. For archeological values, maintenance of the groundwater level and restrictions for land use are very important for the sustainable existence. In case of historical buildings or structures, it is important to have the possibilities "to bring in" new forms of uses and to make necessary adjustments since e.g. buildings and structures, in particular, are often products of several periods/styles. The ability of input of new uses is also important for the maintenance of the historic-geographical values. Old church paths and dykes can function as tourist's walking trails; even the old deeps are suitable for canoeing. Since physical planning demands consultations and public hearings, it is often contributing to or even leading the discussion. For both historic buildings and historic-geographical values respecting the historic scale and the connection between element and its "own" spatial environment are important issues to incorporate

in ruling by physical planning, e.g. a medieval center of a city or a dwelling mound village, fields of fire belonging to fortifications and historic field patterns around dwelling mounds.

D3. A proper description of the landscape and cultural history values in spatial terms and a valuation of the effects of new developments supported by professional designing to visualize effects should always be part of physical planning processes.

Awareness of existing values is one of the basics of good physical planning practice. In any physical planning process a description of the values in spatial terms is a must. There are many sources and they should be easily accessible. The LANCEWAD mapping results give information about the characteristics of the landscape and cultural heritage in the different sub regions seen in trilateral and even international perspective. Using this information has the advantage of giving input to maintaining, restoring and using elements, structures and scenery in establishing the spatial identity of an area.

In case of questions whether existing values and new developments can be unified, there should always be made a design of the possible ways of how to handle this in order to create images to decide on whether the new developments can add new quality or at least keep up the existing level. The design(s) should be made by experts, e.g. on the level of architects, and discussed with all parties involved. When designs demonstrate that the quality is diminishing, this should result in adapting the plan or even, if this is not possible, in deciding not to allow the development to take place on this site and to look for alternatives.

D4. To analyze the actual translation of physical planning principles on landscape and cultural heritage into executing physical planning in order to obtain information on potential improvements.

In each country, there should also be a mapping and assessment undertaken of the actual acting of governments concerning protection of and vision on development of the landscape and cultural heritage using individual elements (or category of elements) and the overall landscape characteristics related to the elements mapped by LANCEWAD. This will help to formulate concrete actions on how to stimulate a better use of physical planning.

6.3.6 Sector development – Issue based guidance for management

In addition to the legislation and regulations specifically designed to protect, conserve and manage the landscape and cultural heritage and the integrative spatial and policy planning outlined above, developments in the sector and the sector legislation, plans and management have a significant impact on the sustainable use and management of the heritage. The potential conflicts have been indicated in the foregoing chapter, and in this chapter, the contribution of the different sectors have been outlined.

6.3.6.1 Town and industrial development

a. Issue

Modern times brought many changes in the cultural landscape of the Wadden Sea Region. The impact of modern towns and modern ways of living in urban communities, as well as the industrialization in the vicinity of the urban centers have profoundly changed the former rural landscape in many parts of the area. Even rather small towns like, e.g., Otterndorf have incorporated their former rural surroundings – nowadays a large number of dwelling mounds and the old Medem dyke can be found in the town area between houses. Although it is possible to secure the existence of the monuments, it has proven difficult to conserve traces of the former cultural landscape in a sensible way. Solutions have been found in adapting the lines of the landscape in the layout of urban settlements but in most cases many concessions were also unavoidable. The question remains, if the results are still of relevance for the people living in such settlements.

Industrial development leads to redefining the former landscapes in the most literal sense to industrial areas, and therefore they have mostly been located in landscape parts assumed being of low value. Nevertheless, there is a tangible impact on the whole of the surrounding area in the form of a kind of a chain reaction. Because of the added negative landscape elements, the landscape on a larger scale will be felt of lower value than before.

b. Recommendations

E1. To consider the elements of the former landscape in physical planning in urban surroundings in such a way that the original character of the landscape remains a part of the perception of the inhabitants, and therefore to emphasize the crucial elements by appropriate means so that the awareness of the origins is maintained.

Industrial and town development has to be planned in such a way that the value of the broader landscape will not be diminished. It has to be taken into account that contours and outlooks on typical landscape elements, e.g. views on dwelling mounds, villages or churches for instance should not be devaluated. The chain reaction of diminishing the value of the region by industrial areas has to be taken into account and must be considered as a decision criteria of high importance for the development of the cultural landscape in physical planning.

6.3.6.2 Land use

a. Issues

The main forms of interfering with landscape and cultural historic values in terms of land use are agriculture, forestry, and nature management. They all have more or less an impact on the condition of the soil and the archeological values. The land use has also great impact on the landscape and cultural values in the broader sense. Agriculture is a highly dynamic form of land use both in terms of the cultivation of the land and in terms of crops used. This has a great influence on how restrictions in terms of the "normal agricultural use" like plowing and equalizing must be interpreted. Also, the different demands in terms of new technological developments in agriculture make it difficult to weigh interests with regard to enlarging parcels versus preservation of the historic scale of land use in the long term. Forestry and nature management is a low dynamic land use. Once an area becomes a forest or nature conservation area the soil "gets rest". The primary impact of forests is on the archeological values and openness of the area. Nature conservation areas can have an impact on the historical-geographical values since these may diminish gradually only by a natural management.

Besides protection of landscape and cultural values by legislation, it is of utmost importance

to gain insight into the developments in and around the mentioned forms of land use to be able to recommend possible connections which support both land use and landscape and cultural values.

b. Recommendations Agriculture

E2. To stimulate active planning of locations and forms of agriculture based on landscape and cultural historic values using them as a trilateral/international trademark of specific quality in close cooperation between governments and agriculture.

E3. To stimulate appropriate ways of cultivation to protect the landscape and cultural historic values.

Agriculture has the largest impact on landscape and cultural values being the main form of land use in the countryside. Intensive cultivation does significant harm to the values, especially to the historic-geographical values through the enlargement of parcels and by equalizing of reliefs. Archeological values are even severely threatened by equalizing and plowing. And the fall of water levels in old deeps (landscape/scenery) and in dwelling mounds (archeology) have also their negative impact.

The policy for agriculture and its future is, for the greater extent, determined by the EU agriculture policy and the world trade conditions. In northwestern Europe and in particular the northern coastal area, more and more a certain movement of policy towards quality products from sustainable production and consumer safety, animal welfare, and quality of environment, water, nature and landscape and cultural history can be noticed. This should become the common strategy using the specific qualities of this area as a trademark for a new way of agriculture.

In executing this policy choices are needed in terms of where to produce what kind of products. It necessitates an open discussion and a sustainable cooperation between agriculture and regional government, as well as on the national and even European level. In the case of landscape and cultural history qualities, the characteristics of the regions should constitute a guiding principle. Of the utmost importance is the localizing of greenhouses in specific areas preferably industrial areas, and if localized in the countryside then only in size related to the local scale and with proper design and landscape building measures. Open small-scaled areas are

better suited for dairy-cattle breeding in combination with management of meadow birds and plants and geese.

Forestry

E4. To request extra attention in afforestation and management keeping up existing landscape and cultural historic values using them as inspiration of design.

Forestry is of less impact on the values nowadays. There are no large government afforestation programs and private initiatives are limited. When afforestation is planned this should only be allowed with the utmost care for landscape and cultural values especially concerning landscape/scenery and archeology. Starting point should be the use of the local and regional characteristics as the basic for considering location and design. Specific elements like archeological sites and historic roads must have their "own" place and can be used in the recreational concept. Open areas, e.g. on the marshes and especially along the seawalls, should always be kept open, locations are to be found linked to existing forests or other condensed areas taking account of the size of the areas. Plant material should be of regional origin and preferably consist of foliage trees to get a stable forest and the best fitting in the landscape/scenery.

The management of forests should be as natural (extensive) as possible and, where possible, with transformation into mainly foliage trees. Specific cultural elements and structures ask for special management, which keeps their individual values.

Nature management

E5. To pay extra attention to development and management of nature conservation areas by keeping existing landscape and cultural historic values and using them as an inspiration for design and management.

E6. To stimulate the integration of nature management combined with agricultural use and the maintenance of landscape and cultural history values.

E7. To enhance, as much as possible, a natural nature management fitting into the different forms of land use as a whole.

The land use for nature management on the countryside can be divided in nature conservation areas and nature management combined with agricultural use. Both should always fit the

characteristics of the region and enhance, in particular, the landscape/scenery characteristics (e.g. enhancing keeping green shores along the canals and deeps). Constructing nature conservation areas should always be undertaken on the basis of the natural potential characteristics of the region, e.g. along old deeps and places of salty or fresh seepage. Existing archeological and historic-geographical values should be respected. In designing the plan, clear choices have to be made with regard to what and how – by special measures – to preserve. In the management plan, the management of these values has to be an integrated issue.

About the nature management combined with agricultural use, first of all, there is the link with the developments in the agricultural policy and the choices where to produce what kind of products as described above. In addition to this, special attention should be given to combining archeological and historic-geographical values like dwelling mounds, dikes, small scaled historic field patterns and relief with measures to improve the conditions for the flora and fauna. Sufficient financial means to cover loss of income have to be available.

Considering landscape and cultural history in the Wadden Sea itself and in the natural parts of the islands (dunes, marshes), the basic line of policy and management in this areas is "nature first". Nevertheless, in particular, the cultural historic values, e.g., shipwrecks, submerged old villages and sand dams on the islands have to be taken account of. In case of the historical shipwrecks preservation must be the main target in executing policy and management since they are largely of international value, e.g., the western part of the Dutch Wadden Sea. The values of landscape/scenery are served the best by "nature first" -policy and management.

6.3.6.3 Infrastructure (including harbors, wind turbines)

a. Issues

Roads, motorways, railways, traffic

As of the 19th century, the coastal regions of the Wadden Sea have been more and more intensively connected with the inland regions. Nowadays, these connections are more important than the connections between the Wadden Sea regions themselves. Much of the differences of the regions can be explained by acknowledging these rather recent developments. In many features of the cultural landscape the increased

influence of mainland traditions can be seen, like in building preferences, shopping centers etc., but also a demographic change becomes possible by modern traffic connections. Inland people settled in the region, whether by finding work or as pensioners, original inhabitants went away finding work elsewhere. In the last decades, the people who have immigrated inland were one of the motors of a growing valuation of the typical features of the Wadden Sea regions, as can be seen for instance by their initial efforts in restoring the old houses. They definitely gave new impulses in rising awareness of the values of the coastal areas, a welcome alternative to the pessimistic views of the old inhabitants caused by economic decline. Following this line of argument, modern developments in infrastructure cannot be seen only as losses in identity, but also as a motor for growing appreciation for the cultural landscape. However, this growing awareness of still existing values should not be frustrated by a ruthless modernizing of the land, as the feelings and the identification of the people connected with their environment are of crucial importance for the future.

Harbors, shipping traffic

The Wadden Sea region has a lot of small harbors, many of them very beautiful, suited for fishing vessels and sport boats. The main issue of concern is the permanent danger of silting up, but there is no question of maintaining the harbors in their present form. Larger harbors like Bremen and Bremerhaven, Wilhelmshaven, Hamburg or Esbjerg are closely connected with industrial development, so here problems do arise in balancing the interests of economy and their impact on the cultural landscape. The industrial skyline of the harbor of Bremerhaven causes a clear loss of value in the landscape of southern Land Wursten. Recent discussions about the filling in of parts of the Mühlenberger Loch near Hamburg also displays the difficulties of political decision concerning the use of landscape and nature. Regulation of Elbe, Weser and Ems are dynamic processes changing the balances in the water management, as the danger of silting up the Eastern Frisian harbors caused by the Weser adjustment for larger ships shows. Solving these problems will presumably cause changes in the harbor management of these small harbors.

Wind turbines

The coastal area is well suited for wind energy plants. In all countries, a lot of discussion was raised about the impact on the landscape, related both to the natural and the cultural aspects. As the supply of energy lies in the national interest of the countries – favoring renewable energy most clearly formulated maybe by the German governments – the choice between energy plants and the maintaining of the landscape only could be a compromise. It remains a matter of taste, if one likes the sight of wind turbines or if one sees the landscape destroyed by only a few of them, but undeniable are the big changes caused by them in the image of the landscape. The low old dwelling mounds and old dykes as only vertical elements are almost lost in view of the relatively large wind turbines. One could also argue that a former agrarian landscape is transformed into an industrial one. The practice of placing the wind parks in the landscape nowadays follows the same planning arguments as planning of industrial areas. The political opposition in most of the Wadden Sea regions against the wind parks shows, however, that the found compromises are still biased towards preferring wind parks and the interests of the landscape maintenance fall short. The same as above can be noticed for modern infrastructure.

b. Recommendations

E8. To take account of the perception of the inhabitants with regard to planning and executing infrastructure projects.

The landscape quality is of primary interest for the demographic situation in the Wadden Sea region. Therefore, the feelings of the inhabitants concerning modernization formulated in the political realm has to be taken very seriously in the process of planning the landscape features. Monument and nature protection laws are primarily designed for protecting objects (monuments) and important parts of the cultural landscape. The discussion especially about the impact of wind parks on wider parts of the cultural landscape has shown the shortcomings of the legal instruments for regulating. As the question, what the landscape should look like, remains to be answered, landscape plans incorporating both nature and culture visions of future development should be used more intently as a basis for future planning. A greater involvement of planning partners from the cultural sciences is needed.

6.3.6.4 Fishery

a. Issue

The most significant fishery in the Wadden Sea is the shellfish fishery such as mussel, cockle and shrimp fishery. Other fishery activities are of limited importance and do not constitute an impact on the cultural and landscape heritage. Since shellfish fishery is a bottom fishery, it can potentially entail an impact on the cultural heritage in the Conservation Area like the shipwrecks and the remnants of earlier settlements and salt mining sites.

The current policy and management of the mussel and cockle fishery will also indirectly contribute to protect the cultural heritage in the Wadden Sea. Cockle fishery is prohibited in the German Wadden Sea Conservation Area, whereas it is confined to a small area in the Danish Conservation Area. Mussel fishery is in principle confined to the sub-tidal and larger areas have been closed for this fishery. This has, e.g., resulted in the phasing out of mussel fishery in the former salt mining areas of the Schleswig-Holstein Wadden Sea Conservation Area. Also the Dutch mussel fishery policy takes account of the shipwrecks in the western part of the Dutch Conservation Area. The amended Key Planning Decision will explicitly take account of the cultural and landscape values, in particular, the shipwrecks.

It is recommendable to assess, on the basis of the inventory of the LANCEWAD project, whether and to what extent the landscape and cultural heritage is protected from impacts from shellfish fisheries in the current policy, and if necessary ensure that such a protection is given through legal stipulations, the introduction of new or additional policies and management, and/or through co-management schemes.

b. Recommendation

E9. To introduce an appropriate protection and management of the cultural and landscape heritage in the Wadden Sea Area, where possible, in combination with other initiatives to regulate activities in order to control impacts from bottom fishery, if, on the basis of an evaluation of the current protection regime, it has been demonstrated that it is insufficient to safeguard the heritage from such impacts.

6.3.7 Knowledge building, awareness and public participation

a. Issue

The LANCEWAD project constitutes the first comprehensive mapping and valuation of the landscape and cultural heritage of the Wadden Sea Region. The LANCEWAD-database, which has been established as part of the project, contains a comprehensive and harmonized information collection on the elements and element types in the Wadden Sea Region. The database is unique in its sort and of fundamental importance and a powerful instrument for the further efforts in the field of landscape and cultural heritage management on all levels (trilateral, national, regional, local) in the Wadden Sea Region. The information is essential to maintain and extend the third dimension being the landscape and cultural heritage to the natural and environmental dimension. It will contribute to ensure that the interests related to the heritage management will play an equal role to other interests in planning and decision-making processes.

It is essential that this database will be maintained and extended to include further elements and element types and geographical information on a joint basis and be updated on a regular basis. This information must also be made available to a broader audience of relevant authorities, stakeholders and interested people. The main issue in this case is currently that there are several authorities involved in the management of the heritage and that, in principle, the information is stored differently and in an incompatible way. The LANCEWAD databases are currently basically not embedded in a long-term structure on a national and/or regional basis. It is therefore desirable that, in order to maintain and extend the database(s) and to enable a use for management in those regions where this is not yet the case, a national or regional authority should be appointed lead authority and be responsible for maintenance and extension of the database. This authority should also be responsible for making the information available to a larger audience, e.g. through the Internet. This is a precondition enabling the integration of the information of the heritage in decision-making and planning at an early stage to ensure that it will play an equivalent role compared to other interests.

An appropriate coordination of the joint databases for the Wadden Sea Region should be

continued and guaranteed on a long-term basis. A common data base is necessary for the continuation of the joint policy in this field and therefore the joint LANCEWAD database should be continued to be located at the CWSS

Related hereto is the importance of involving the inhabitants and other interested in the awareness building. The LANCEWAD project has also demonstrated that there is a significant local expertise on the heritage which should be further used. It is important to obtain and process this knowledge for the benefit of the management of the heritage and this can best be done by stimulating the organization of local groups and enter into a communication with those groups.

The awareness of the values are essential for the comprehension of the Targets for landscape and culture as entailed in the Wadden Sea Plan on IDENTITY, VARIETY, HISTORY and SCENERY. As indicated earlier, 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 is therefore essential to further raise the awareness of this heritage throughout the region in order to promote the managed development.

The awareness and dissemination of the information on the heritage can be done in several ways. It seems first of all necessary to make the results of the LANCEWAD project available to a broader audience. This should be done in the native languages. A popular version of the LANCEWAD project report should be published in German, Danish and Dutch in combination with a CD-Rom and/or on the Internet. This would meet the agreement entailed in the Wadden Sea Plan 1.2.2, stating that the results "...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". Such a publication should be combined with a set of appropriate maps.

Furthermore, a dense network of information and awareness centers exists along the Wadden Sea coast and on the islands. The primary task of these centers is to raise the awareness of the natural environment of the Wadden Sea and the conservation regimes. Many of the centers also include information on the historic-cultural landscape but in most cases this information is not equal to the information on the natural environment. The information on the landscape and cultural heritage in the information centers

should therefore be examined and, as appropriate, be upgraded. Information material on the Wadden Sea could also, to a larger extent than currently the case, entail information on the landscape and cultural-historic heritage.

b. Recommendations

The knowledge building, awareness and public participation is an essential element in the sustainable management of the heritage in the Wadden Sea Region. It is recommended:

F1. To maintain, update and, where necessary, extend the LANCEWAD-database nationally and trilaterally to ensure that the information on the heritage will be available for a balanced decision-making process and awareness by

- making an authority in the four regions responsible for the database and also for the dissemination of the information on a digital basis in so far as this is not yet the case and
- ensuring an appropriate coordination of the information between the regions by maintaining, updating and extending the joint LANCEWAD data base at the CWSS.

Sufficient and up-to-date information on the cultural and landscape heritage in the Wadden Sea Region is a precondition for a balanced decision-making related to the heritage and to raising the awareness of the heritage. The LANCEWAD database is a powerful instrument to ensure that these preconditions will be fulfilled and the information will be made available to a larger audience. The database should be maintained, updated and extended where appropriate nationally and trilaterally. One organization in each of the regions should be made responsible as database authority. The joint database should be located at the CWSS.

F2. To make use of and stimulate the establishment of local groups as an information and awareness resource of the cultural and landscape heritage.

LANCEWAD project has verified that there is a significant local expertise. It is important to obtain and process this knowledge and this can best be done by using and/or stimulating the organization of local groups and enter into a communication with those groups.

F3. To publish a popular version of the LANCEWAD project report or a comparable popular publication in the three languages in combination with a CD-Rom or on the Internet to ensure that the information is easily accessible and widely dispersed.

It is essential to further raise the awareness of the heritage throughout the region in order to promote the managed development. It is necessary to make the results of the LANCEWAD project available to a broader audience. This should be done in the native languages.

F4. To examine the information given in the Wadden Sea information and awareness centers and in publication material with regard to the cultural and landscape heritage and, as appropriate, upgrade this information to ensure a comparable information level to the natural environment.

The dense network of information centers along the Wadden Sea coast and the islands should play a larger role with regard to information on the cultural and landscape heritage. Also in publications and brochures on the Wadden Sea, information on the cultural-historic heritage should be more prominent.

6.3.8 Monitoring

a. Issue

The management of the landscape and cultural heritage requires an appropriate monitoring of the status of the heritage. Opposed to the monitoring of the natural and environmental values, there is currently only very limited monitoring of the landscape and cultural heritage. It is vital, in order to assess the impacts of the developments and the efforts invested to manage the heritage, that a proper monitoring system be designed. Basically this monitoring system should be related to the targets for landscape and cultural heritage and possibly be part of the overall Trilateral Monitoring and Assessment Program (TMAP) on a long-term basis. Information is also essential in order to inform the community on the status of the heritage and provide for the necessary support. The information should also be included in the Quality Status Reports established in the framework of the trilateral cooperation in order to provide for a regular assessment of the heritage on the same level as for the natural and

environmental heritage. A monitoring of the heritage is required if a cultural site and landscape is included in the World Heritage List. The World Heritage Committee requires regular reports on the conservation status of listed sites in order to be able to assess whether the site fulfills the requirements. If the Wadden Sea Region or parts thereof will be inscribed in the World Heritage List, a proper monitoring of the landscape and cultural heritage values, for which the site has been inscribed, is indispensable.

There are several possibilities to design a monitoring system. One way is to monitor all the elements systematically on an annual basis. This is a resource demanding system, which is probably not very realistic. Another option is to monitor the elements and element types in selected areas being areas valued in the LANCEWAD project on a regular basis, e.g. every 5 years. This could be linked to the LANCEWAD database, and an assessment could be given on the status of the heritage in comparison to the previous period. A third option is to monitor different elements with different intervals, e.g. some of the elements annually whereas others would only be monitored every 5 years and others with a larger time span. In the forthcoming period, a suitable monitoring strategy should therefore be developed and implemented hand in hand with the further development of the conservation and management of the heritage.

b. Recommendations

The monitoring of the landscape and cultural heritage of the Wadden Sea region is essential to provide a continued information on the management status of the heritage, an assessment of the measures applied and information to the larger public. It is therefore recommended:

G1. To develop and implement a strategy for monitoring the landscape and cultural heritage on the basis of the Targets and the results of the LANCEWAD project, and taking account of a potential nomination of the Wadden Sea Region or parts thereof as a World Heritage Site.

G2. To include an overview of the landscape and cultural heritage in the Quality Status Reports Wadden Sea to enable an assessment of the implementation status of the Targets in line with an assessment of the targets for habitats and species.

6.3.9 Follow-up projects

a. Issue

The current LANCEWAD project has carried out an inventory and maps of the most important landscapes and cultural heritage elements of the Wadden Sea Region. Furthermore, proposals for maintenance and promotion of the valuable landscape and heritage have been elaborated. Now, the project results are a sound basis to implement regionally and locally applied projects and to develop further strategies to integrate the cultural issues in an overall management plan. With the available quality maps and the assessment of the cultural values of the Wadden Sea Region, a basis is at hand to contribute to a sustainable spatial planning process.

To preserve, maintain and restore the characteristic cultural elements, structures and ensembles, appropriate measures should be further developed and internationally coordinated to aim at proposals for integrated management plans for local up to international levels. Follow-up projects should aim at both, a top-down and a bottom-up model in the field of spatial planning and integrated management. This means in more concrete terms, common approaches are transformed into local application, and the experiences of the applied demonstration projects will provide a feed back to further update the common guidelines and strategies.

b. Recommendations

Follow-up projects on the landscape and cultural heritage in the Wadden Sea Region are essential for a consolidation of the data base structure to be used for management and spatial planning. Furthermore, new projects can contribute to a sound preparation for a nomination of the Wadden Sea Region as a cultural World Heritage Site. It is therefore recommended:

H1. To strive for a transformation of the outcome of the current LANCEWAD project into practice by implementing demonstration projects on the regional and local level.

H2. To develop common guidelines for management and sustainable use, as well as strategies for conservation, restoration and better awareness of the heritage and landscape values.

H3. To elaborate adequate tools for a better promotion of the outstanding values.

H4. To contribute with a new project to a nomination of the Wadden Sea Region as a World Heritage Site.

For the realization of the recommendations, a project application under the Interreg IIIB North Sea Program should be made.