Information Sheet on Ramsar Wetlands (RIS) – 2009-2012 version

1. Name and address of the compiler of this form:

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DD MM YY

Designation date	Site Reference Number

Lars Dinesen
Danish Nature Agency - Nature Planning and Biodiversity
Ministry of the Environment
Haraldsgade 53
2100 København Ø
Phone +45 7254 4830
e-mail ladin@nst.dk

Preben Clausen
DCE - Danish Centre for Environment and Energy, and
Department of Bioscience
Aarhus University
Grenåvej 14
DK-8410 Rønde
Denmark
Phone +45 8715 8857/ Fax +45 8715 8902
e-mail pc@dmu.dk

2. Date this sheet was completed/updated:
May 2012

3. Country:
Denmark

4. Name of the Ramsar site:
The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

Vadehavet (Wadden Sea)
(International No. 356; National No. 27)

5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only)**:**
a) Designation of a new Ramsar site ❑; or
b) Updated information on an existing Ramsar site ☒

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged: ❑

or
If the site boundary has changed:
i) the boundary has been delineated more accurately ☒; or
ii) the boundary has been extended ❑; or
iii) the boundary has been restricted** ❑

and/or

If the site area has changed:
i) the area has been measured more accurately ☒ ; or
ii) the area has been extended ❑; or
iii) the area has been reduced** ❑

** **Important note**: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

No major changes to the ecological character of the site are known, but there is improved understanding of processes regulating the numbers of breeding waders in the polder areas on the mainland parts of the Ramsar site.

7. Map of site:
Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

i**) a hard copy** (required for inclusion of site in the Ramsar List): ❑;

ii**) an electronic format** (e.g. a JPEG or ArcView image) ☒; Denmark_ramsar27.pdf

iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** ☒.
A comprehensive ESRI ArcView GIS 3.1 shapefile named DKRamsar_WGS84geo is submitted in conjunction with the Danish RIS 2008 update files. The shape is geo referenced and projected in datum WGS84. The shape is composed of five files:

a. DKRamsar_WGS84geo.shp
b. DKRamsar_WGS84geo.dbf
c. DKRamsar_WGS84geo.shx
d. DKRamsar_WGS84geo.sbn
e. DKRamsar_WGS84geo.sbx

and is considered self-explanatory in its database fields.

b) Describe briefly the type of boundary delineation applied:
e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

All Danish Ramsar sites are also designated as Special Protection Areas for Birds (SPAs) under the EEC Birds Directive, and most of them as Special Areas of Conservation (SACs) under the EEC Habitats Directive, hence part of the Danish Natura 2000 network. Generally the delineation of the Ramsar-sites are identical to that of the SPAs, follow coastlines or lake shores, but also includes adjacent salt marshes.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):
Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

55°16'N, 08°32'E (the island of Mandø)

9. General location:
Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

The Wadden Sea lies along the most South western coast line of Denmark. Larger towns close to the Wadden Sea are Esbjerg, Varde, Ribe and Tønder. The area is situated in the Sønderjylland Region.

10. Elevation: (in metres: average and/or maximum & minimum)

0-5 m

11. Area: (in hectares)

151,080 hectares

12. General overview of the site:
Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The Danish Wadden Sea is a part of a coherent tidal area stretching from Ho Bugt north of Esbjerg in Denmark to Den Helder in The Netherlands covering about 10,000 km² including barrier islands (about 1,000 km²), of which the Danish part constitutes about 10%.
The Danish Wadden Sea area is characterised by tidal mud- and sandflats between the mainland and the islands. The tidal amplitude varies from 1.5 metres in the northern part to about 2.0 metres in the south.
The entire Wadden Sea is one of the world's most productive wetlands with an outstanding rich bottom fauna including vast mussel beds. The area is an important nursing habitat for several fish species of the North Sea.

13. Ramsar Criteria:
Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1	2	3	4	5	6	7	8	9
☒	☒	☐	☒	☒	☒	☐	☒	☐

14. Justification for the application of each Criterion listed in 13 above:
Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Criterion 1: The Wadden Sea is a unique example of a natural wetland type in the Atlantic biogeographic region. The extensive tidal flats in Denmark, Germany and Netherlands constitute possibly the largest.

Criterion 2: The Danish Wadden Sea and its mainland catchment is currently the only known area with a naturally viable population of the globally threatened and endemic North Sea houting *Coregonus oxyrinchus*. The species is currently listed as EXTINCT on the IUCN Red list (Freyhof & Kottelat 2008), but a recent study of the DNA of the houting stocks in Danish waters and the Baltic clearly demonstrates that the streams leading into the Wadden Sea indeed host genetically distinct populations of North Sea houting, whereas *Coregonus* stocks from further north and east in Denmark and in the Baltic proper are European lake whitefish *C. lavaretus* (Hansen et al. 2008).

The site also holds populations of some species covered by Annex 2 of the EEC Habitats directive, i.e.

an annual breeding population of Common Seal (*Phoca vitulina),* occasionally also breeding Grey Seal *(Halichoerus grypus)*(nationally red-listed, VU, DMU 2007), and the streams in the upland have populations of Otter *(Lutra lutra)(*VU).

In addition to the endangered fish and mammals, the Danish Wadden Sea area is well known as a major breeding site for a suite of nationally red-listed species of birds. Today the area is the only regular breeding site for Gull-billed Tern (*Gelochelidon nilotica)*(CR, Ann. I, EU Birds Directive), *White Stork (Ciconia ciconia)*(CR), Kentish Plover *(Charadrius alexandrines)*(EN, Ann. I, EU Birds Directive), and Montagu's Harrier *Circus pygargus* (EN, Ann. I, EU Birds Directive) in Denmark – and also an important breeding site for other redlisted species such as Spoonbill (*Platalea leucorodia*)(VU, Ann. I, EU Birds Directive), Pintail *(Anas acuta)*(VU), Black-tailed Godwit *(Limosa limosa)*(NT – IUCN, VU Denmark), Baltic Dunlin *(Calidris alpina schinzii)*(EN, Ann. I, EU Birds Directive), Ruff *(Philomachus pugnax)*(EN, Ann. I, EU Birds Directive), and Black Tern (Chlidonias niger)(RE, Ann. I, EU Birds Directive).

Criterion 4: The Wadden Sea is an internationally important moulting area for Eider (*Somateria mollissima*) and Shellduck (*Tadorna tadorna*).

Criterion 5: The Wadden Sea is the most important staging and wintering site for waterbirds in Denmark especially for dabbling ducks and waders. Every year more than 10 million migrating waterbirds on the East Atlantic Flyway are passing the Wadden Sea on spring and autumn migration.

Criterion 6: A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird. The site regularly supports more than 1% of the individuals in the populations of the following species (count data 2004-2009 compered to WPE4 1% criteria).

Whooper Swan (*Cygnus cygnus*): 822 birds – 1.4% of the Northwest European population
Pink-footed Goose (*Anser brachyrhynchus*) 3,358 birds – 8.0% of the Svalbard/NW Europe population**
Greylag Goose (*Anser anser*) 7,074 birds – 1.4% of the NW Europe/SW Europe population**
Barnacle Goose (*Branta leucopsis*) 64,528 birds – 15.4% of the Russia/Germany/Netherlands population

Dark-bellied Brent Goose (*Branta bernicla*) 7,258 birds – 3.6% of the W Sibiria/W Europe population
Light-bellied Brent Goose (*Branta bernicla hrota*) 366 birds – 5.2 % of the Svalbard/Denmark/UK population.

Shellduck (*Tadorna tadorna*) 36,595 birds – 12.2% of the Northwestern Europe population

Wigeon (*Anas penelope*) 70,135 birds – 4.7% of the Nortwestern Europe wintering population
Teal (*Anas crecca*) 4,812 birds – 1.0% of the Nortwestern Europe wintering population
Pintail (*Anas acuta*) 8,984 birds – 15.0 % of the Nortwestern Europe wintering population
Shoveler *(Ansa clypeata)* 1,147 birds – 2.9% of the Nortwestern Europe wintering population

Eider (*Somateria mollissima*) 15,564 – 2.0% of the Baltic/Denmark/Netherlands population

Common Scooter (*Melanitta nigra*) 54,970 birds – 3.4 % of the W Siberian/W & N European/NW African population.

Oystercatcher (*Haematopus ostralegus*) 31,822 – 3.1% of the Europe and NW Africa (win) population
Avocet (*Recurvirostra avocetta*) 4,813 birds – 6.6% of the Western Europe and North-west Africa population.

Golden Plover (*Pluvialis apricaria*) 25,779 birds. Exact flyway-affinity unknown, but most likely involves both the Northern Europe breeding population of the subspecies and *altifrons (1% criterion 7,500 birds*), and the Europe breeding population of the nominate subspecies *apricaria* (1% criterion 1,700 birds).

Grey Plover (*Pluvialis squatarola*) 3,358 birds – 1.3% of the Eastern Atlantic (wintering) population

Bar-tailed Godwit *(Limosa lapponica)* 23,888 birds. The area is certainly used by both subpopulations, and the average counts would qualify both for the *taymyrensis* Siberian (breeding) - West & South-west Africa (nonbreeding) population (1% criterion = 6000 birds) and the Northern Europe and Western Siberia (breeding) Western Europe (nonbreeding) population (1% criterion = 1200 birds)

Knot (*Calidris canutus*) 102,870 birds. The area is certainly used by both subpopulations, and the average counts would qualify both for the *canutus* Siberian (breeding) - West & South-west Africa (nonbreeding) population (1% criterion = 3400 birds) and the Northeast Canadian and Greenland Arctic (breeding) Western Europe (nonbreeding) *islandica* population (1% criterion = 450 birds)

Sanderling *(Calidris alba)* 5,005 birds – 4.2% of the East Atlantic Europe West & Southern Africa (win) population

Dunlin (*Calidris alpina*) 201,459 – 15.1% of the N Sibiria/Europe/W Africa population

Redshank (Tringa totanus) 4,932 birds – 2.0% of the Northern Europe (breeding) population.

Curlew (*Numenius arquata*) numbers reported below in the table on p. 10, i.e. 8,065 birds represents 0.9% of the Europe (breeding) population, but Meltofte et al. (2009) present results of three dedicated counts of this species, which totalled between 9,570 and 14,900 birds in the Wadden Sea, thus between 1.1-1.7% of the mentioned flyway population.

** For Pink-footed Goose and Grey-lag Goose, which frequently also feed on adjacent agricultural fields outside the Ramsar area, even higher proportions are likely to roost at night. (In Denmark swans and geese are monitored during daytime at feeding sites).

Criterion 8: The site is a nursing place for several fish species of the North Sea.

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15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):
Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:
Atlantic.

b) biogeographic regionalisation scheme (include reference citation):
Biogeographical Regiosn Europe, 2005, European Environment Agency

For Criterion 2, species are listed either:

i**)** with reference to their presence on the International lists of species of conservation concern, i.e. listed on the most recent IUCN Red list and according to most recent criteria for concervation concern (IUCN 2007).
ii) or with reference to their presence on the National lists of species of concervation concern. The latter are under transition from published information to online information which means that for some taxa older IUCN criteria for red listning have been applied (e.g. fish, Stoltze & Pihl 1998), while for other taxa the most recent IUCN criteria are adopted (e.g. birds, amphibians DMU 2008).
iii) or with reference to their presence on Annex 1 of the EEC Birds Directive, or Annex 2 of the EEC Habitats Directive, and are considered threatened in the European Union

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16. Physical features of the site:
Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

No specific information.

17. Physical features of the catchment area:
Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

No specific information.

18. Hydrological values:
Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

No specific information.

19. Wetland Types

a) presence:
Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

Inland: L • M • N • O • P • Q • R • Sp • Ss • Tp Ts • U • Va • Vt • W • Xf • Xp • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

b) dominance:
List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

A; B; G; H; Tp; Ts; E; F; 3; Q; 6

20. General ecological features:
Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The area comprises the following main waterbird habitats:
- Reclaimed marshland behind sea dikes with a combination of arable land, permanent pasture and freshwater canals
- Coastal saltmarshes dominated by luxuriant vegetation
- Tidal and intertidal flats comprising about 60% of the Wadden Sea, flooded at high tide and more or less dry at low tide
- Sandbanks, dry at normal high water
- Sloughs and gullies between the islands and the tidal flats
- Open waters west of the islands with deeps and shallow areas (less than 10 m depth) extending 8-15 km out into the North Sea.

21. Noteworthy flora:
Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

No specific information.

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

The whole Wadden Sea is one of the world´s most productive wetlands with an outstanding rich bottom fauna and vast mussel beds, and it is a nursing place for several fish species of the North Sea.

The sandbars in Danish Wadden Sea holds a large breeding population of Common Seals, and some Grey Seal *(Halichoerus grypus)* started to breed in the area since 2007.

The river systems in the catchment area east of the Danish Wadden Sea are breeding areas for the endemic fish houting *Coregonus oxyrinchus,* and have in recent years also been recolonized by Otter *(Lutra lutra)*(Elmeros et al. 2006).

Birds: The Danish Wadden Sea is of oustanding international and/or national importance for breeding, moulting, staging, and wintering waterbirds. For several species of shallow-water feeding ducks the site typically holds half of the Danish populations (e.g. Petersen et al. 2006b, 2010), and for waders most species have >90% of their national staging population in this single Ramsar site (Meltofte 1993).

Breeding birds: A total survey of the breeding populations are conducted every 6th year. The latest survey was in 2006, and the next complete survey takes place in 2012. The table below is taken from Laursen & Thorup (2009), who published the results of the 2006 survey with particular focus on the EU Birds Directive Annex I species found in the area. The Ramsar site is identical to the nine SPAs.

Table 1. Total number of pairs in the nine SPAs in the Danish Wadden Sea for species mentioned in the Bird Directive's Annex 1.
Det totale antal par i alle ni EF-fuglebeskyttelsesområder i det danske Vadehavsområde for arter anført i EF-fuglebeskyttelsesdirektivets Bilag 1.

	1983 (1977-85)	1991 (1986-92)	1996	2001	2006
Hen Harrier *Circus cyaneus*	0	0	5	0	0
Montagu's Harrier *Circus pygargus*	31+	27+	32	24	16
Corncrake *Crex crex**	0	-	0	3	0
Avocet *Recurvirostra avosetta*	-	1131	776	541	573
Kentish Plover *Charadrius alexandrinus*	-	-	57	89	47
Dunlin *Calidris alpina*	-	42	28	20	12
Ruff *Philomachus pugnax*	168	70	8	3	10
Gull-billed Tern *Gelochelidon nilotica*	3	2	12	0	0
Sandwich Tern *Sterna sandvicensis*	2	0	1039	715	3229
Common Tern *Sterna hirundo*	69	154	215	65	18
Arctic Tern *Sterna paradisaea*	679	571	1057	902	719
Little Tern *Sterna albifrons*	-	-	219	219	77
Black Tern *Chlidonias niger*	76	26	49	12	19
Short-eared Owl *Asio flammeus*	-	-	12	4	3

* The Corncrake is only counted in SPA no. 49.

Thorup & Laursen (2008) likewise published the results of the 2006 survey for four common breeding waders, and the table below gives an extract from their tables 1-4.

	Breeding population (in pairs)		
Species \ Year	**1996**	**2001**	**2006**
Haematopus ostralegus	2952	2663	2318
Vanellus vanellus	3603	2998	2957
Limosa limosa	257	312	263
Tringa totanus	1614	1703	1522

The numbers of breeding pairs for many populations are declining in the region, not only in Denmark but also in the German parts immediately south of the Danish border. These declines appear to be resulting from agricultural intensification in the polder areas behind the seawall, but also increased predation pressure. Clausen & Kahlert (2011), focusing on Tøndermarsken, the largest polder area in the region, thus demonstrate that for several species a recovered fox *Vulpes vulpes* population, has major implications for the breeding populations. Numbers of many breeding species were exceptionally high during late 1970s and the early 1980s, when the fox populations had been reduced to approx.. 20% of what they were in the 1950s and are today (Clausen & Kahlert 2011). The fox populations were combatted to stop the spread of three outbreaks of canine rabies that came over the border from Germany.

Some rarer species and some selected sites are monitored annually, and the table below gives the development in numbers of a suite of species, covered by the EU Birds Directive Annex I.

Breeding waterbirds: Table giving the most recent information about breeding waterbirds in the Ramsar site. Published and unpublished data from the NOVANA programme of the Ministry of Environment and DCE, supplemented with data from the Birdlife Denmark citizen science portal DOFbasen on selected breeding species covered by the EEC Birds Directive Annex 1. Numbers given are annual breeding populations of the species listed. Counting intensity varies over the years. Note: 0 does not necessarily mean the species was absent – rather not counted/reported

	Breeding population					
Species \ Year	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Phalacrocorax carbo	22	12	16	30	28	3
Botaurus stellaris	20	12	9	11	20	11
Ciconia ciconia	1	0	1	0	0	0
Platalea leucorodia	0	0	0	2	4	8
Circus aeruginosus	23	4	3	1	0	0
Circus cyaneus	1	0	0	0	0	0
Circus pygargus	20	17	22	15	12	11
Porzana porzana	8	7	2	2	2	1
Crex crex	5	2	0	3	0	1
Recurvirostra avosetta	648	532	573	280	453	366
Charadrius alexandrinus	67	35	47	64	68	39
Calidris alpina	13	16	12	8	0	0
Philomachus pugnax	6	7	10	2	1	2
s melanocephalus	3	3	2	3	2	2

Larus minutus	0	0	0	0	0	0
Gelochelidon nilotica	3	2	0	0	0	1
Sterna sandvicensis	1190	1183	3249	2660	3000	1855
Sterna hirundo	37	44	18	19	32	57
Sterna paradisaea	789	926	977	601	808	491
Sterna albifrons	176	153	104	150	140	161
Chlidonias niger	16	1	19	0	22	12
Asio flammeus	1	0	4	0	0	9
Luscinia svecica	115	141	76	88	69	38

Note: this site has not been subject to intensive monitoring programmes for all species/all years. Missing Marsh Harrier *(Circus auruginosus)* in table might thus represent missing coverage rather than absence of these species some years. "Half pairs" represents a range, 0,5 pair is this 0-1 pair.

Moulting, staging and wintering birds: Are monitored by three methods:

i) aerial surveys of the whole area outside the dikes, usually 4 times per year (January, May, October, and a randomly chosen month)
ii) counts 1-2 times per month at hide tide on four out of the six most important high tide roosts
iii) counts of staging geese and swans in the polder areas at fixed times of the year (part of the International Waterbird Census schemes, i.e. all geese in January, Barnacle and Pink-footed Geese in March, Brent Geese in May, Grey-lag Geese in September).

For many species – and especially the waders, the current aerial survey do not 'hit' the annual peaks, although some species e.g. Dunlin and Knot probably are well covered by the current aerial survey programme. For other species such as Wigeon, Dark-bellied Brent Goose, Common Eider, they probably do hit peak numbers almost annually.

The numbers tabulated on next page should nevertheless be considered as minimum estimates of true numbers present in the area.

Trends for staging waterbirds in the Danish Wadden Sea are generally similar to or better than they are for the Schleswig-Holstein, Niedersachsen, and Dutch parts of the Wadden Sea (Laursen et al. 2010).

The table only list species for which the site is considered of national importance on an annual basis. The % at the righthand side gives an estimated proportion of the international flyway dealt with. Bold figs indicate current international importance (contrasting 1% criteria of WPE4 with average numbers).

	Annual Maxima						Average	%
Species \ Year	2004	2005	2006	2007	2008	2009		
Podiceps auritus	42	36	3	7	2	15	18	0.3
Phalacrocorax carbo	2912	5522	2182	3688	924	850	2680	0.7
Platalea leucorodia	21	11	27	16	38	49	27	0.2
Cygnus cygnus	780	1400	1285	665	334	469	822	**1.4**
Anser brachyrhynchus	2550	3600	5000	4500	3000	1500	3358	**8.0**
Anser albifrons albifrons	17	905	829	69	2042	1323	864	0.1
Anser anser	9185	5250	6280	6357	7374	8000	7074	**1.4**
Branta leucopsis	60500	58470	61000	70000	70200	67000	64528	**15.4**
Branta bernicla bernicla	4325	2580	9942	13800	9040	3860	7258	**3.6**
Branta bernicla hrota	145	120	762	350	100	716	366	**5.2**
Tadorna tadorna	40954	28301	45756	46785	28619	29153	36595	**12.2**
Anas penelope	54558	81929	30000	118315	74046	61961	70135	**4.7**
Anas strepera	66	120	151	104	39	170	108	0.2
Anas crecca	3883	3939	3192	8655	5700	3500	4812	**1.0**
Anas platyrhynchos	7215	6480	10394	8953	5131	4595	7128	0.4
Anas acuta	9109	4995	12274	10945	11184	5398	8984	**15.0**
Anas clypeata	1416	1176	1089	1289	850	1062	1147	**2.9**
Somateria mollissima	24983	14065	7777	14419	17855	14287	15564	**2.0**
Melanitta nigra	70000	45000	55000	75000	24820	60000	54970	**3.4**
Melanitta fusca	800	1100	3000	1200	75	200	1063	0.1
Haliaeetus albicilla	2	4	6	4	4	7	5	
Circus cyaneus	18	10	8	4	4	7	9	
Falco peregrinus	8	8	5	7	8	6	7	
Grus grus	0	0	9	0	0	0	9	
Haematopus ostralegus	27679	28880	32754	39136	40227	22253	31822	**3.1**
Recurvirostra avosetta	8100	3000	6000	6000	2080	3700	4813	**6.6**
Charadrius morinellus	28	4	48	17	44	47	31	0.0
Pluvialis apricaria	30000	27500	20000	35000	19174	23000	25779	**3.4**
Pluvialis squatarola	3380	5360	2830	2724	1352	4500	3358	**1.3**
Vanellus vanellus	6457	5470	12770	15325	7471	5890	8897	0.4
Calidris canutus	95092	65920	86790	46085	151632	171698	102870	**22.9**
Calidris alba	4120	5030	12000	2400	1950	4530	5005	**4.2**
Calidris alpina	107900	173715	177795	179590	400000	169740	201457	**15.1**
Limosa lapponica	21851	13000	21822	45950	22787	17915	23888	**4.0**
Numenius arquata	5770	9530	4684	12320	9505	6579	8065	0.9
Tringa totanus	5500	5000	3380	3500	2910	9300	4932	**2.0**
Tringa nebularia	2438	3161	1126	512	2141	2410	1965	0.9
Sum of annual maxima	611804	610591	637970	773691	922662	705690		

3. Social and cultural values:

a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

Hunting has been restricted to relatively few sites inside the Ramsar area. The fishery is regulated.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box ❑ and describe this importance under one or more of the following categories:

i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:

ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:

iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:

iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

Land tenure/ownership:
a) within the Ramsar site:

Territorial waters, private, the State represented by the Ministry of Environment, the Ministry of Food, Agriculture and Fisheries, the ministry of Transport, the Ministry of Defence, and the Counties of Ribe and Sønderjylland.

b) in the surrounding area:

Territorial waters. As most other Danish Ramsar-sites, this site is partly surrounded by a rural landscape composed of a mixture of private owned agricultural areas and forests.

25. Current land (including water) use:
a) within the Ramsar site:

grazing, farmland

b) in the surroundings/catchment:

Mainly farmland

26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:
a) within the Ramsar site:

Pollution of the Wadden Sea by the discharge of nutrient water from rivers and smaller streams and by the influence of polluted water from the North Sea south of Denmark.
Potential threats are:
Deposit of harbour-sludge from Esbjerg, containing heavy metals.
Drainage and cultivation of permanent grassland areas behind the sea dikes.
Impact from recreational activities on the beaches of the wetland areas.
Disturbance by hunting on saltmarshes (high tide roosts for waterbirds) and in areas behind the sea dikes.
Over-exploitation of natural resources (mussels etc.)
Deepening of the shipping lane from the North Sea to Esbjerg.
Oil spills.
Sea-level rise.

b) in the surrounding area:

27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:
In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

Nature conservation: The entire territorial waters of the Wadden Sea, Skallingen (1,200 hectares), Ribe Holme (170 hectares), areas on Fanø (1,200 hectares), areas on Rømø (1,650 hectares) and Margrethe-Kog (1,100 hectares).

The island of Langli and adjacent waters in Ho Bugt is a scientific reference zone where all activities are prohibited or strictly regulated throughout the year. In 1988 the reclaimed marshland behind the sea dikes in Tøndermarsken was conserved by law (2,500 hectares) in order to preserve traditional agricultural use of the polders for the benefit of flora and fauna.

In 1982 a Ministerial Order on the protection of the natural status of the Danish part of the Wadden Sea was issued by the Minister of Environment. In 1992 and 1998 the Ministerial Order was revised and the provisions on the wildlife reserve were incorporated in two steps. By 1998 this has meant that hunting of waterbirds on the mudflats in the entire Danish Wadden Sea, and also on most of the coastal saltmarshes have been phased out. These provisions also include a zoning system in order to regulate public access. The new scheme has improved the conservation status of the Wadden Sea and the protection of waterbirds.

The whole Ramsar site is protected under EU legislation, and included in:
Natura 2000-site No. 89 Special Protection Areas for Birds (SPA) Nos. 49, 51, 52, 53, 55, 57, 60, 65, 67, and the main part of the area is included in Special Areas of Conservation (SAC) Nos. 78 and 90.

Moreover, the Danish part of the Wadden Sea has been designated as the third National Park in 2010.

Denmark, Germany and The Netherlands cooperate to protect the entire Wadden Sea. A Common Wadden Sea Secretariat, situated in Wilhelmshaven in Germany, is currently working on these matters.

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ☒; Ib ❑; II ☒; III ❑; IV ❑; V ❑; VI ❑

c) Does an officially approved management plan exist; and is it being implemented?:

A joint trilateral management plan for the entire Wadden Sea in The Netherlands, Germany and Denmark has been approved and is being implemented. For smaller areas in Denmark management plans have been approved for Magisterkog and Haasberg Sø, and for Rømø Nørreland.

For all Danish Ramsar sites, being part of the Danish Natura 2000 network, concervation status base-line reports were finalised in 2006 by the former counties, and published by the regional Environment Centres of the Agency for Spatial and Environmental Planning in 2007. In 2011 Natura 2000 plans were issued by the Danish Ministry of Environment/Danish Nature Agency setting up site-specific nature goals and priorities for all Danish Natura 2000 sites, including all Danish Ramsar sites. Parallel to this initiative on Natura 2000 sites, river basin management plans were likewise issued by the Danish Ministry of the Environment/Danish Nature Agency for all Danish river basins in 2011, aimed at meeting demands from the EU Water Framework Directive, hence to improve water quality and ecological status in wetland catchments and coastal areas.

National Ramsar site No. 27 is covered by Natura 2000 plan No. 89 (divided into several subplans, Naturstyrelsen 2011a,b,c,d,e,f,,g,h,i) and river basin management plans Nos. 1.10 and 4.1 (Naturstyrelsen 2011j,k).

d) Describe any other current management practices:

A new management project has been carried out in 2009 establishing grazing on 115 hectares of saltmarsh around Lakolk Sø on Rømø.

The EU funded Life Houting-project, http://www.snaebel.dk/English/, the second largest nature restoration project in Denmark – restored several wetlands during 2005-2011 with the principal aim of improving breeding habitats for the Houting and nursing conditions for the Houting larvae, but the restored wetlands are also expected to attract other rare and species, e.g. Black Tern and Bittern

28. Conservation measures proposed but not yet implemented:
e.g. management plan in preparation; official proposal as a legally protected area, etc.

During 2012 the Government and Municipalities will develop site-specific management action plans to meet the goals of the Natura 2000 and river basin management plans.

A project on improving the breeding conditions for threatened breeding meadow birds has been started in 2009 on Mandø.

29. Current scientific research and facilities:
e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

In 2003 Denmark launched the NOVANA programme. This programme forms the basis for future nature and water quality assessments in Denmark, and as such also supports the administration of the Ramsar site networks. NOVANA is an acronym that could be translated to English as NMWANA (**N**ew **M**onitoring programme for **WA**ter quality and **NA**ture), and aims at fulfilling the Danish obligations with regards to reporting conservation status of species and habitats covered by the EEC Birds and Habitats Directives annexes, as well as water quality and associated target species covered by the National 3rd Action Plan for the Aquatic Environment (Vandmiljøplan 3) as well as the EEC Water Framework Directive. The programme is described by Bijl et al. (2007). A first 'pre'-NOVANA assessment of the national conservation status of birds was published in 2003, and translated to English in 2006 (Pihl et. al 2006). National criteria for assessing favourable conservation status for the listed species and habitats were likewise published in 2003, and translated to English in 2007 (Søgaard et al. 2007), except for marine habitats, published solely in Danish (Dahl et al. 2005a). First assessments of reference conditions and development of Ecological Quality Objectives (EQOs) related to the Water Framework Directive were

published in 2005-2006 (Dahl et al. 2005b, Petersen et al. 2006). Water bird monitoring programmes involves complete national mid-winter surveys every third year (e.g. Petersen et al. 2006b), and annual complete counts of selected species groups (e.g. swans, geese, dabbling ducks, rare breeding birds, e.g. e.g. Søgaard et al. 2006, 2007). The dabbling duck monitoring programme is built upon the much more comprehensive reserve monitoring programme from 1994-2001 (Clausen et al. 2004). Annual assessments of water quality are also available (latest summary report, Nordemann Jensen et al. 2010).

A joint trilateral monitoring programme TMAP is carried out by Denmark, Germany and The Netherlands, including among others monitoring of breeding, staging, and migrating birds, seals, mussels, phytoplankton, eelgrass, macroalgae, contaminants and nutrients, recreational activities, and the spatial extension of salt marshes, beaches and dunes and other general parameters such as coastal protection measures, flooding and land use.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:
e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

There are visitors centres at Højer Sluse, Vester Vedsted, Mandø, Esbjerg (Fiskeri- og Søfartsmuseet), Blåvandshuk and Varde Ådal with information booklets on the area, books, video shows etc. and facilities for school visits, see http://www.iwss.org/ . A small information centre has been opened on Skallingen. Guided tours for tourists etc.

31. Current recreation and tourism:
State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Many tourists, especially from Denmark and Germany, visit the area.

32. Jurisdiction:
Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

National legislation on Nature Conservation and Hunting regulations, as well as national administration of the Ramsar Convention and EEC Birds and Habitats Directives: *Ministry of the Environment.*
National legislation on Agriculture and Fisheries: *Ministry of Food, Agriculture and Fisheries.*
Local administration and implementation of Nature Conservation: Municipalities listed below under point 33.

33. Management authority:
Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Municipalities
Tønder Kommune
Kongevej 57
6270 Tønder

Esbjerg Kommune
Torvegade 74
6700 Esbjerg

Varde Kommune
Bytoften 2
6800 Varde

Fanø Kommune
Rådhuset
Skolevej 5-7
6720 Fanø

Local units of the Nature Agency
Naturstyrelsen Blåvandshuk
Ålholt
Ålholtvej 1
6840 Oksbøl
Tel: +45 72543000

Naturstyrelsen Vadehavet
Skovridervej 3
Lindet Skov
6510 Gram
Tel: + 45 72543000

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Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

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