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

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2. Date this sheet was completed/updated:

September 2013

3. Country:

the Netherlands

4. Name of the Ramsar site:

Biesbosch (see 7b)

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

This RIS is for:
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:

Nothing particular.

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7. Map of site:

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) ❑;

iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** ❑.

b) Describe briefly the type of boundary delineation applied:

Ramsar site Biesbosch Zuidwaard has also been designated as the European Natura 2000-site Biesbosch. For this RIS-version, the Ramsar site boundary has therefore been adjusted to the (proposed) Natura 2000-boundary, and the name of the Natura 2000-site has been adopted.

Vast areas of adjacent wetland area like river, riverine forest, marshland and wet grassland are now included within the Ramsar site. In total this new boundary resulted in a substantial increase of +6829,1 ha

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8. Geographical coordinates (latitude/longitude, in degrees and minutes):

51°44'N - 04°46'E

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9. General location:

Provinces of Noord-Brabant and Zuid-Holland, bordering the city of Dordrecht (population 118.466 per 1-1-2013; source CBS, Netherlands Statistics) in the north.

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10. Elevation: (min & max)

NAP 0 / +3 m

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11. Area:

9640,1 ha

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12. General overview of the site:

A fresh water tidal estuary in the Rhine/Maas river system, though dammed from the (main tidal influence) of the sea in 1970. The site consists of a flood-plain, polders, marshland and swamp-forest, and is intersected by many formerly tidal creeks. The complete site known as the Biesbosch consists of three parts: Sliedrechtse and Dordtsche Biesbosch north of the Nieuwe Merwede and de Brabantse Biesbosch south of it. The Ramsar site only concerns the southern part of the Brabantse Biesbosch ("Zuidwaard"). The site is adjacent to the Ramsar site "Hollands Diep" in the west.

The Biesbosch was created in the year 1421 during the notorious Sint Elizabeth flood. This resulted in an inland sea of 30.000 hectares under influence of river waters and the tide. The water of the rivers contained sand and mud which sedimented and formed high sand flats. Since then the Biesbosch was a vast freshwater tidal area for many centuries. It was characterised by treacherous tidal forests with *Salix* (partly in use as coppice: "grienden"), alternated with bare sand and mudflats, reed-marshes and rush fields. The tidal channels had steep banks.

The development of the vegetation and the further sediment accumulation were influenced largely by humans. After some time of sediment accumulation the "grienden" were used for agriculture. Because of the regular inundations the soils were very fertile. To create a quicker drainage of the river water between 1850 and 1870 the Nieuwe Merwede was dug. In this way the Biesbosch was cut in two. The drainage of the water of the Maas was increased by digging the Bergse Maas and the Amer around 1900. Due to the quicker drainage the water became quieter in the larger areas. This increased the sediment accumulation, which could lead to more polders.

After the construction of the Deltaworks the Biesbosch changed substantially. After the closing of the Ramsar site "Krammer-Volkerak" in 1960 and the Ramsar site "Haringvliet" in 1970 the tide reduced from on average two meters to some decimetres. The dynamic tidal area changed into a rough marsh land in which the differences in heights between flats and channels slowly diminished. The rush fields and reed marshes have partly disappeared, parts are converted into polders, while drinking water reservoirs are constructed. In spite of these interferences the landscape of islands and winding water courses essentially still exists. It is now characterised by rivers, creeks, mud flats, reed marshes, willow forests, some embarked "grienden" and polders.

In 2007 more than 3000 ha of nature restoration took place in the Biesbosch as part of the "Room for River" programme. The influence of the river dynamics can now be observed within the core of the Biesbosch again. The process of erosion of embankments and sedimentation of sand continuous. The nature restoration area's in the Biesbosch are very important for migratory birds and the site is an important breeding area for fish eating birds like several heron species.

13. Ramsar Criteria:

1	2	3	4	5	6	7	8	9
☑	☑	☑	☑	☑	☑	☐	☑	☐

14. Justification for the application of each Criterion listed in 13 above:

The Ramsar site Biesbosch has been designated under Natura 2000 as well. Natura 2000 is the centrepiece of EU nature & biodiversity policy. It is an EU-wide network of nature protection areas which aims to assure the long-term survival of Europe's most valuable and threatened species and habitats. It is comprised of Special Areas of Conservation (SAC) designated by Member States under the Habitats Directive, and also incorporates Special Protection Areas (SPAs) designated under the Birds Directive. Natura 2000 applies to SACs and SPAs which are divided into biogeographical regions. The Ramsar site Biesbosch applies to both and the justification for the application of each Ramsar criterion below, greatly refers to its designation as a SAC and SPA.

Justification criterion 1

The almost 10.000 ha fresh water tidal system of the Biesbosch is a unique ecosystem within the Atlantic Biogeographic region. It's an area of rivers, creeks, ponds, wet grasslands and vast alluvial forests, which attracts a wide range of species (groups) in substantial numbers throughout the year. This kind of habitat has been strongly deteriorated elsewhere in Europe.

Justification criterion 2

The table below shows Annex II species (HD) and Annex I species (BD) for which the site has been designated as a SAC and SPA respectively, as well as their current status on the National Red List. Some other threatened species of the National Red Lists have also been added to the table.

*Species of Annex II of the European Habitat Directive (HD) and Annex I of the European Bird Directive for which the site has been designated as a SAC and SPA respectively, as well as species of annex IV, V (HD) and some threatened species of the National Red Lists (- = Not Applicable). Year of adoption of the National Red List in parentheses. Species marked with an * are priority species.*

Species(group)	**Species code**	**HD Annex**	**BD Annex**	**National RL category**
Vascular plants				(2004)
Marsh Spurge *Euphorbia palustris*	-	-	-	VU
Triangular Club-rush *Schoenoplectus triqueter*	-	-	-	EN
Early Marsh-orchid *Dactylorhiza incarnata*	-	-	-	VU
Mosses				(2004)
Orthotrichum rogeri	H1387	II	-	NT
Dragon flies				(2004)
Aeshna isosceles	-	-	-	VU
Molluscs				(2004)
Lithoglophus naticoides	-	-	-	VU
Anisus vorticulus	-	-	-	VU
Mercuria confuse	-	-	-	CR
Pisidium amnicum	-	-	-	VU
Pseudanodonta complanata	-	-	-	EN
Fish				(2004)
Blueback Glut Herring *Alosa alosa*	H1102	II	-	LC
Twaite Shad *Alosa fallax*	H1103	II	-	EX
Salmon *Salmo salar*	H1106	II	-	LC
Sea Lamprey *Petromyzon marinus*	H1095	II	-	LC
River Lamprey *Lampetra fluviatilis*	H1099	II, V	-	LC
Bitterling *Rhodeus sericeus amarus*	H1134	II	-	VU
Weatherfish *Misgurnus fossilis*	H1145	II	-	VU
Spined Loach *Cobitis taenia*	H1149	II	-	LC
Barbel *Barbus barbus*	-	-	-	EN
Bullhead *Cottus gobio*	H1163	II	-	LC
Mammals				(2009)
Pond Bat *Myotis dasycneme*	H1318	II, IV	-	LC
Beaver *Castor fiber*	H1337	II, IV	-	NT
*Root Vole *Microtus oeconomus arenicola*	H1340	II, IV	-	VU
Non-Breeding birds				
Great White Heron *Egretta alba*	A027	-	I	-
Eurasian Spoonbill *Platalea leucorodia*	A034	-	I	-
Bewicks Swan *Cygnus columbianus*	A037	-	I	-
Barnacle Goose *Branta leucopsis*	A045	-	I	-
Smew *Mergus albellu*	A068	-	I	-
Osprey *Pandion haliaetus*	A094	-	I	-
Breeding birds				(2004)
Bittern *Botaurus stellaris*	A021	-	I	EN

[1]White-tailed Sea Eagle *Haliaeetus albicilla*	A075	-	I	-
Western Marsh Harrier *Circus aeruginosus*	A081	-	I	LC
Spotted Crake *Porzana porzana*	A119	-	I	VU
Common Kingfisher *Alcedo atthis*	A229	-	I	LC
Bluethroat *Luscinia svecica*	A272	-	I	LC

Justification criterion 3

The Biesbosch is designated as a Natura 2000-site (both SAC and SPA) and can therefore be considered important for maintaining the biodiversity of the Atlantic biogeographic region.

Besides the species mentioned under criterion 2, the site has also been designated as a SAC for a range of habitat types (Annex I of HD) and SPA for a number of bird species that are not on Annex I of the BD. See the tables below.

*Habitat types (according to interpretation manual of EU-Habitat Directive; * = priority habitat type) for which the site has been designated as a SAC.*

Habitat code	Habitat type
H3260	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation
H3270	Rivers with muddy banks with *Chenopodion rubri* p.p. and *Bidention* p.p. vegetation
*H6120	Xeric sand calcareous grasslands
H6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
H6510	Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*)
*H91E0	Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) (More than 1800 ha).

Bird species (not on Annex I of the BD) for which the site has been designated as a SPA as well as their status on the National Red List (2004).

Species	Species Code	National RL category
Non-breeding birds		
Great Crested Grebe *Podiceps cristatus*	A005	-
White-fronted Goose *Anser albifrons*	A041	-
Greylag Goose *Anser anser*	A043	-
Eurasian Wigeon *Anas [Mareca] Penelope*	A050	-
Gadwall *Anas strepera*	A051	-
Common Teal *Anas crecca*	A052	-
Mallard *Anas platyrhynchos*	A053	-
Northern Pintail *Anas acuta*	A054	-
Northern Shoveler *Anas clypeata*	A056	-
Common Pochard *Aythya ferina*	A059	-
Tufted Duck *Aythya fuligula*	A061	-
Common Merganser *Mergus merganser*	A070	-
Sea Eagle *Haliaeetus albicilla,*	A075	-
Common Coot *Fulica atra*	A125	-
Black-tailed Godwit *Limosa limosa*	A156	-

[1] After centuries of absence from the Netherlands the first breeding couple of the White-tailed Sea Eagle *Haliaeetus albicilla* was observed again in 2006 in the Ramsar site Oostvaardersplassen. Since 2012 the species is also observed breeding successfully in the Biesbosch. The site has however not been designated as a SPA for breeding Sea Eagles.

Breeding birds		(2004)
Great Cormorant *Phalacrocorax carbo*	A017	LC
Savi`s Warbler *Locustella luscinioides*	A292	VU
Sedge Warbler *Acrocephalus schoenobaenus*	A295	LC

Justification criterion 4

The site is of particular importance for many breeding and non-breeding bird species (see criterion 2, 3 and 6), of which several species gather in relatively high population numbers in small areas during the breeding, migration or wintering periods, especially ducks and geese like the Barnacle Goose *Branta leucopsis.*

Justification criterion 5

The site regularly supports more than 20,000 wintering waterbirds: the average peak number was 58.695 for the period 2005/2006-2009/2010, which is less than the average peak number of 100.817 in the previous counting period of 1999/2000-2003/2004 (Source: Sovon, Dutch Centre for Field Ornithology).

Justification criterion 6

Species meeting the 1% threshold (WPE-4, Wetlands International 2006; Source: Sovon, Dutch Centre for Field Ornithology). (NB = non-breeding, BR = breeding period 2006-2010).

Species (UK)	Species	NB / BR	Biographical population	1% threshold	Average number of birds between 2006-2010	% at site
Shoveler	*Anas clypeata*	NB	NW/ Central Europe	400	948	2.4
Gadwall	*Anas strepera*	NB	NW. Europe	600	4320	7.2
Greylag Goose	*Anser anser*	NB	NW. Europe/ SW. Europe	5000	7239	1.4
Barnacle Goose	*Branta leucopsis*	NB	Russia/ Germany/ Netherlands	4200	13022	3.1
Bewick's Swan[1]	*Cygnus columbianus*	NB	W-Siberia/NW-Europe	200	250	1.3
[1] Based on one counting of a roosting site only.						

Justification criterion 8

The site has an important function as a spawning, nursery and feeding ground for a range of fish species and is part of the migration route for many others. The site has among others been designated as a SAC for the conservation of a range of fish species like Blueback Glut Herring *Alosa alosa,* Twaite Shad *Alosa fallax*, Salmon *Salmo salar*, Sea Lamprey *Petromyzon marinus*, River Lamprey *Lampetra fluviatilis*, Bitterling *Rhodeus sericeus amarus*, Weatherfish *Misgurnus fossilis*, Spined Loach *Cobitis taenia* and Bullhead *Cottus gobio* (see criterion 2).

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15. Biogeography:

a) biogeographic region:

The Ramsar site belongs to the Atlantic biogeographical region.

b) biogeographic regionalisation scheme (include reference citation):
The bio-geographic regions dataset used, contains the official delineations used in the Habitats Directive (92/43/EEC) and for the EMERALD Network set up under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)

16. Physical features of the site:

The site was a freshwater tidal estuary until the construction of a barrier dam (Haringvliet dam) in 1970. The construction of the dam caused a considerable reduction in the tidal amplitude of the site (from 2 m to 0.2 m). As a result strong erosion of the banks and sedimentation of the channels took place. Sedimentation of strongly polluted silt took place mainly between 1970 and 1975. Some polders have been transformed into water basins, used for water storage of drinking water. Between 1995 and 2015 some 3500 ha of nature restoration is planned to take place.

17. Physical features of the catchment area:

The relevant catchment areas for the Biesbosch are the catchments of the rivers Meuse and Rhine. The surface area of the catchment of the river Meuse is 33.000 km². Geologically and geomorphologically it consists mainly of Quarternary and Mesozoic sediments and Paleozoic (eroded) mountains. The general soil types are: Alluvial, Brown forest soils and montane soils. The general land use is pasture farming, arable farming and forestry. The climate according to Köppen is rainy (Cbf).

The surface area of the catchment of the river Rhine is 185.000 km². Geologically and geomorphologically it consists mainly of Quarternary, Paleozoic and Mesozoic sediments and Tertiary mountains. The general soil types are: Alluvial, Brown forest soils and montane soils. The general land use is forestry, pasture farming, arable farming, inproductive land (high mountains). The climates according to Köppen are rainy (Cbf) and montane (EH).

18. Hydrological values:

The hydrological values of the Biesbosch include flood control, sediment and nutrient retention and water purification.

19. Wetland Types

a) presence:

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:

M 34%; 4 24%; Xp 16%; O 6%; Tp 5%; Wet grassland 15%.

20. General ecological features:

After the construction of the Deltaworks the Biesbosch substantially changed. After the closing of Krammer-Volkerak in 1960 and Haringvliet in 1970 the tide reduced from an average two meter to some decimetres. The dynamic tidal area changed into a rough marsh land with *Urtica dioica, Convolvulus arvensis* and *Symphytum officinale* in which the differences in heights between flats and channels slowly diminished. The rush fields, reed marshes and tidal forest have partly disappeared, parts were impoldered and drinking water reservoirs were constructed. In spite of these interferences the landscape of islands and winding water courses essentially still exists and it is still determined by the tides, river dynamics and high eutrophic levels. It is now characterised by rivers, creeks, mud flats, reed marshes, embarked "grienden" en polders. Because of the diminishing of the tide the zones shifted and became smaller.

Plant communities of European interest that occur are:

- *Lemno-Nitelletum capillaries*
- *Ranunculo fluitantis-Potametum perfoliati*
- *Stratiotetum*
- *Utricularietum vulgaris*
- *Groenlandietum*

After southern Flevoland the Biesbosch ranks second as most important area for Bluethroat; a bird that breeds in rough reed lands. Furthermore it is an important breeding area for other birds of marshes (such as Marsh Harrier, Spotted Crake, Savi's Warbler and Sedge Warbler) and for birds of watery sites with forests (Cormorant and Kingfisher).

In spite of the big changes that occurred in the area, the Biesbosch is still a very important breeding area for birds of marshes and water birds. Although the disappearance of the tide made the Biesbosch less attractive to some species, it is still an internationally important staging and wintering area for many water birds and birds of prey. The Brabantse Biesbosch is mainly important as staging, foraging and resting area for thousands of ducks and geese.

Some of the uses of the ecosystem are very old. In the extended reed lands reed cutting still takes place on a small scale. The reed is used for embankments and for traditional roofs. Also some of the former "grienden" are still in use as coppice. The wood is used for baskets, bean poles, handles for shovels and rakes, traditional fences and for shore and bank defence.

Because of the great diversity of bird species and the presence of Beavers there is a lot of nature recreation. The Biesbosch is the place where the first Beavers were reintroduced in the Netherlands (in the late 1980's) and it is still one of the best places in the Netherlands to spot them or to find the tracks. This makes the Beaver one of the most important tourist attractions. The area is made accessible by some paths and by canoe. There is a visitors centre where you can watch the Beavers near their lodge with a camera. There are also special excursions at night where you can spot the Beavers "live". With the regular breeding of Sea eagles recent years, another nature attraction can nowadays be observed in the Biesbosch.

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21. Noteworthy flora:

Most noteworthy flora is listed under no. 14.

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22. Noteworthy fauna:

Most noteworthy fauna is listed under no. 14.

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23. 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:

See 25. Current land use.

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?

No

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24. Land tenure/ownership:

a) within the Ramsar site:

The site is owned by the state, Staatsbosbeheer and private owners.

b) in the surrounding area:

Surrounding area: the water (Hollands Diep) is state owned, on land several private owners.

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25. Current land (including water) use:

a) within the Ramsar site:

Arable farming 5 - 35%, Reed cutting <5%, Commercial fisheries 5 - 35%, Angling, (Ground-)water extraction 5 - 35%, Residential (scattered) <5%, Wind mills, Shipping traffic 5 - 35%, Visitors centre, Nautical sports, Military training, Water management >95%, Dams, reservoirs & hydro-electric activities 5 - 35%.

b) in the surroundings/catchment:

Water management (sluices of Haringvliet).

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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:(A = serious threat covering large part of the area; B = moderate threat or local threat; C = minor threat):

Industrialization and urbanization (B - chemical pollution of bottom sediments); Recreation/ tourism (B -).

b) in the surrounding area:

Nothing particular

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27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

- Special Protection Area (Birds Directive 79/409/EEC, 1996)
- Special Area of Conservation (Habitats Directive 92/43/EEC)
- Natura2000 site
- De Biesbosch National Park (1994).

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?:

The Ramsar site matches 100% with the (proposed) designation for Natura 2000.
The process for the Natura 2000-management plan has started.

d) Describe any other current management practices:

Nothing particular.

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28. Conservation measures proposed but not yet implemented:

Nothing particular.

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29. Current scientific research and facilities:

Ongoing biodiversity monitoring is one of the obligatory activities in relation to the designated Natura2000 habitat types and/or species. SOVON, the Dutch Bird Research Organisation, coordinates for instance a continues national bird monitoring program in which it cooperates with 7000 volunteers, research institutes and organisations in the monitoring of birds throughout the Netherlands (among others the Haringvliet).

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30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

Visitors centre, excursions, hide, information booklet

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31. Current recreation and tourism:

See 25. Current land use. An estimated 2 million visits per year.

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32. Jurisdiction:

Territorial: Dienst Domeinen (Ministerie van Financiën); Functional jurisdiction (conservation purposes): Ministry of Economic Affairs.

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33. Management authority:

Main management authority: Staatsbosbeheer, P.O. Box 1300, 3970 BH Driebergen, tel. +31 (0)30-6926111.

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34. Bibliographical references:

- BirdLife International, 2004. Birds in Europe, population estimates, trends and conservation status. Cambridge, UK: BirdLife International. (BirdLife Conservation Series No. 12).
- Hornman, M., Hustings, F., Koffijberg, K., Kleefstra, R., Klaassen, O., van Winden, E., SOVON Ganzen- en Zwanenwerkgroep & L. Soldaat, 2012. Watervogels in Nederland 2009/2010. SOVON-rapport 2012/02, Waterdienst-rapport 12.06. SOVON Vogelonderzoek Nederland, Nijmegen.
- Janssen, John, A.M. & Joop, H.J. Schaminée, 2009. Europese Natuur in Nederland. Laag Nederland Natura 2000-gebieden. KNNV-Uitgeverij. 248p.
- Ministerie van LNV, 2009. Ontwerpbesluit Natura 2000 gebied Biesbosch.
- Van Roomen M.W.J, Boele A., van der Weide M.J.T., van Winden E.A.J, Zoetebier D. 2000. Belangrijke vogelgebieden in Nederland, 1993-97. Actueel overzicht van Europese vogelwaarden in aangewezen en aan te wijzen speciale beschermingszones en andere belangrijke gebieden. SOVON-informatierapport 2000/01. SOVON Vogelonderzoek Nederland, Beek-Ubbergen.

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