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STEERING COMMITTEE FOR THE CONSERVATION AND MANAGEMENT  
OF THE ENVIRONMENT AND NATURAL HABITATS  
(CDPE)

Group of Specialists - "Protected areas"  
(PE-S-ZP)

23 - 25 March 1994

"De Weerribben" Nature Reserve

*Application for the European Diploma*

presented by:

the Dutch Government

Staatsbosbeheer / National Forest Service  
Postbus 1300  
NL - 3970 BH DRIEBERGEN

European Diploma \* Application form

Name of the area: "De Weerribben"

Name and address of the body responsible for  
its management: Staatsbosbeheer / National Forest Service  
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staatsbosbeheer

Country: The Netherlands

1. Type of Natural Area

"De Weerribben" is a nature reserve of 3620 ha, located in the north of the Netherlands. It is a landscape where water and marsh predominate. Situated on the gradient between the Drents Plateau and the former Zuidersea, it forms one of the most important marshlands in North West Europe.

The present landscape of "De Weerribben" originated from the extraction of peat. Now it is a significant region because of the various stages in the natural development from open water to carr woodland.

The region has a wide diversity of environments varying from open water, reedland, hayfields and carr woodland. Each environment with its own specific type of vegetation: a suitable habitat for a wide variety of wildlife: mammals, birds and insects.

Water is the dominating element in the reserve. All prevailing plant communities and associated wildlife are related to the abundant presence of water.

The richness in environments and the size of the reserve makes it quite unique.

"De Weerribben" is a Ramsar-"Wetland".

2. Characteristics and scientific, aesthetic, cultural or recreational value justifying conservation

The landscape of "De Weerribben" has been shaped by man. The various stages of its development from open water to carr woodland are extremely significant from ecological and scientific point of view.

"De Weerribben" nature reserve is a wetland-landscape. It originated from human influence: the extraction of peat. Traces of this can still be found both in the landscape of "De Weerribben" and in the name of the region. 'Ribben' are small strips of land, baulks, where the extracted peat was laid to dry, and the so-called 'weren' are the dug up parts of the landscape, the peat-holes.

Peat excavation for commercial purposes became of some importance in the late Middle Ages. Although the mineable peat mass extended to 2-4 m

below the groundwater level, only the superficial peat could be extracted. Later, (manual) dredging techniques were also developed and used from parts of the area where the peat had been covered by clay deposits. The peat was dredged in rectangular parcels, about 30 m wide and a few hundred m long, the peat-holes. Narrow standing baulks were left in between. The peat-dredging industry proceeded according to strict regulations prescribing the dimensions of peat-holes and baulks, this prevented the creation of large lakes.

In the beginning of our century, the area consisted mainly of a complex of peat-holes and standing baulks, bordered and interspersed by some grassland and protected by dikes along the coast of the Zuyderzee. Fishing was an important means of subsistence in the former mire area, next to some continued peat dredging and the beginning exploitation of reedbeds (*Phragmites australis*). Locally, rushes (*Scirpus lacustris*) were cut for matting.

The original peatland development pattern is still clearly visible in the region, with baulks in width from at least 3 metres and peat-holes to 30 metres at their widest. The old wooden windmills ('tjaskers') - two of this type of windmills can still be seen in the reserve - were once used to drain the peatholes when peatland development began at a small scale. In this drained land it was easier to extract the peat.

Up until 1920, the digging of peat was of essential economic importance to the local population. The supply of extractable peat then gradually became exhausted, making it much less profitable. The local population gradually switched to the cultivation of reedbeds. In the shallow basins that resulted from this peat-digging, the same process was repeated which in earlier times had led to the development of peatland. Aquatic plantlife began to prosper, resulting in the abundant growth of reed along the shores of the water. Reedcutting and trading then became the major source of income. The quality of the reed from "De Weerribben" is that excellent that it gained a wide reputation throughout the whole of Europe.

However, in 1919, a pumping station was built near the town of Blokzijl to control the level of the surfacewater and the ground water in the north-west part of the province of Overijssel. The result was that these reedlands almost dried out, thus accelerating the shift to dry land vegetation and in the invasion of weeds and thorny herbage. The reclamation of the nearby Noordoostpolder has increased this effect tremendously. Reed-cutting gradually became less important.

Nevertheless, this reed-cutting still remains the most important source of income for some people living in the region. In view of the scenic and ecological importance of the reedbeds, among other things, this has resulted in the continual preservation and subsidization of 1200 hectares of reedland each year.

The cultivation of reed determined the characteristic features of the landscape after the land had developed into peatland.

From a scientific and ecological point of view, "De Weerribben" is a very significant region, among other things, because of the various stages in the natural development from open water to carr woodland which occur there. The region has a wide diversity of environments varying from open water, reedland, hayfields and carr woodland. Each

environment has its own specific type of vegetation. This diversity of the environment provides a suitable habitat for a wide variety of wildlife (mammals, birds and insects).

Water is the dominating element in the reserve. Water, in an equilibrium of groundwater from the Drents Plateau, from rainwater and from surface water, in summertime supplied to the arable lands, from the IJsselmeer, so from the river Rhine origin!

All prevailing plant communities and associated wildlife are in one way or another related to the abundance present of water. The richness in environments and the size of the reserve make it quite unique. However, it is also an extremely vulnerable nature reserve. Sufficient water of a high quality containing not too many mineral nutrients is of essential importance to lowland moors. Reduction of the level of groundwater in neighbouring-areas have damaging effect on the quality of the region.

Several years ago, the otter (*Lutra Lutra*), still occurred in this region: the north-west of the province of Overijssel and the south and middle of Friesland. Since then he has disappeared. An Otter Habitat Restoration Plan was launched in 1989. The first nature development projects have already started in order to make a number of regions suitable for the otter, including "De Weerribben". These projects are primarily focused on improving the quality of water.

Water is the most decisive element for the plantlife and animal habitats in "De Weerribben". The open water is confined to ditches, canals and artificial basins. A wide variety of aquatic plantlife can be found in these still waters, such as common waterlily (*Nymphaea alba*), yellow waterlily (*Nuphar lutea*), water soldier (*Stratiotes aloides*), water violet (*Hottonia palustris*), and frogbit (*Hydrocharis morsus-ranae*). Many species of duck such as Mallard (*Anas platyrhynchos*), Wigeon (*Anas penelope*), and the Teal (*Anas crecca*) can be found on the open water.

On the water, one also finds small mats of floating plants like tussock sedge (*Carex paniculata*), watercress (*Nasturtium officinale*) and greater water-parsnip (*Sium latifolium*). Along the banks of water, other plants can be found, such as bulrush (*Typha latifolia*, *T. angustifolia*), arrowhead (*Sagittaria sagittifolia*), various species of sedge and natural reed (*Phragmites australis*). Further inland, one finds matured reed mixed with other plants and rough herbage.

The thick stands of reed along the waterfront provide an ideal place of refuge for many bird species that prefer a secluded habitat and breeding ground. Many warblers and other song-birds live here: Reed Bunting (*Emberiza schoeniclus*), Bearded Tit (*Panurus biarmicus*), Sedge Warbler (*Acrocephalus schoenobaenus*), Savi's Warbler (*Locustella luscinioides*) and Reed Warbler (*Acrocephalus scirpaceus*). Another remarkable bird, breeding in the reedlands, is the Bittern (*Butor stellaris*). The rails like Water Rail (*Rallus aquaticus*), Spotted Crake (*Porzana porzana*), Baillon's Crake (*Porzana pusilla*), Moorhen (*Gallinula chloropus*), and Coot (*Fulica atra*) are other unique bird species found in "De Weerribben". In the immediate vicinity of the reed stands, birds of prey can be found like Marsh Harrier (*Circus aeruginosus*), Hen Harrier (*Circus cyaneus*), Buzzard (*Buteo buteo*) and Goshawk (*Accipiter gentilis*).

"De Weerribben" is one of the very few places where the Large Copper (*Lycaena dispar* subsp. *batava*) butterfly still occurs. The caterpillar of this butterfly lives exclusively on the leaves of the water dock (*Rumex hydrolapatum*). Another remarkable species in the region is the grass snake (*Natrix natrix*).

Because the roots of aquatic plants intertwine under the water, this results in larger, floating vegetation, which can gradually provide sufficient footing for man. Many different plant communities thrive here, many of them quite rare. In the wetter and atrophic grasslands, plants occur which are rarely found in other parts.

There are two duck decoys in "De Weerribben". The "Kloosterkooi" had not been used for a long time and deteriorated, but was recently restored again. It is now only used for scientific research and for educational purposes. The other duck decoy, the "Kooi van Pen" is one of the largest duck decoys of Europe.

Almost a third part of "De Weerribben" develops into carr woodland by a policy of non active management. Here, one can find alderwoods with, alder (*Alnus glutinosa*), birch (*Betula pendula*), gale (*Myrica gale*) and different species of willow (*Salix spec.*). Beneath these trees you will find plants like royal fern (*Thelypteris palustris*), yellow flag (*Iris pseudacorus*) and various species of sedge and moss. Bittersweet (*Solanum dulcamara*), honeysuckle (*Lonicera periclymenum*) and hop (*Humulus lupulus*) twine around the trunks of the trees. A scheme of classification of the vegetation that appears in "De Weerribben" is described in Appendix 1.

In "De Weerribben" are breeding over 100 species of birds. A list of bird-species of the "Red List", breeding in "The Weerribben" is described in Appendix 2.

### 3. European interest justifying the application

"De Weerribben" forms together with the neighbouring nature reserve called "De Wieden" one of the most important marshlands in North Western Europe.

a. The great abundance of water in the region makes it internationally significant as a permanent place of refuge and breeding ground for waterfowl. This is why "De Weerribben" has been considered internationally already longtimes as an European Wetland of great importance. Since the ratification of the Ramsar Convention on Wetlands of International Importance by the Dutch Government in 1980, "De Weerribben" has the status of "Wetland".

b. "De Weerribben" nature reserve is an EC protection zone under the Bird Directive.

c. Among the many bird species, breeding in "De Weerribben" there are 18 sorts as mentioned in the "Red List"; another 5 sorts are regular noticed, but it is not sure if the are also breeding in the reserve.

d. Eurosite Twinning Contact

"De Weerribben" has a Eurosite Twinning contact with the National Park "The Broads" (East Anglia/GB) and with the nature reserve "Le Marais de Audouardois" (Nord, Pas de Calais/F). The aim of this Twinning contact is the exchange of knowledge and experience of wetland-management in a nature reserve with facilities for the public.

4. Description of geographical location and sketch on a map

The nature reserve "De Weerribben" is located in the north-western part of the province of Overijssel, at 6° E long., 52° 45' N lat., between the towns of Steenwijk and Emmeloord.

"De Weerribben" is originally a part of a vast area of marslands on the gradient between the Drents Plateau in the NE and the former Zuiderzee in the W.

Today "De Weerribben" reserve is a marshland of 3610 ha; reedland 1260 ha, carr woodland 1190 ha, open water 295 ha, hayfield 275 ha, quagfens 100 ha, cultivated land 290 ha, remaining 200 ha.

The nature reserve "De Weerribben" is exclusively the property of the Ministry of Agriculture, Nature Management and Fisheries.

The reserve is under the management of Staatsbosbeheer, the National Forest Service in the Netherlands.

Maps on a scale of 1:200.000 and 1:50.000 with a sketch of the reserve are enclosed: Appendix 3a + 3b.

5. Photographs illustrating typical aspects of the natural site

In Appendix 4 there are eleven photographs printed. They illustrate the several aspects of the ecological value of "The Weerribben" and of the landscape of this site: flora, fauna, avifauna, landscape, windmills, human activities and the visitor centre:

Photo 1, 2 and 3:

Peat-holes with vegetations of water soldier (*Stratiotes aloides*), frogbit (*Hydrocharis morsus-ranae*) resp. common waterlily (*Nymphaea alba*). Reed (*Phragmites australis*) is growing along the shores and carr woodland on the baulks.

Photo 4: Flowers of the common waterlily (*Nymphaea alba*).

Photo 5: The Large Copper (*Lycaena dispar* subsp. *batava*) is the most remarkable butterfly in the region.

Photo 6: Curlew (*Numenius arquata*), one of the breeding-birds of reedlands.

Photo 7: A part of the "Kooi van Pen", one of the two duck decoys.

Photo 8: Little windmills along a canal.

Photo 9: Reed-cutting in wintertime.

Photo 10: The "spinnekopmolen", a windmill which is still used for the regulation of the waterlevel in a small part of the nature reserve.

Photo 11: The visitor's centre near the village of Ossenzijl.

6. Conservation measures taken so far and contemplated

a. Protection scheme

Since the ecological values of the area are of national and international value, the various parts of the nature reserve "De Weerribben" are acquired by the Dutch Government. The first acquisition dates from 1958; it will continue for many years: until the last hectares of the buffer zone are obtained.

The management is effectuated by Staatsbosbeheer, the National Forest Service, a service of the Ministry of Agriculture, Nature Management and Fisheries.

b. "De Weerribben" nature reserve is a "Wetland", as mentioned in the Ramsar Convention on Wetlands of International Importance. Since the ratification of this Convention by the Dutch Government in 1980, "De Weerribben" has the status of "Wetland".

c. "De Weerribben" is a part of the National Ecological Network. It is marked as Core area, an area with (inter)nationally important ecosystems of low lying peatland. The emphasis of these peatland areas is on the exceptional ecological values of (poor)grasslands (including ditches), marshes and pools and canals. This means for example: a basis protection of the ecological values. No injury to the area is acceptable, unless there are ponderous public interests concerned and inquiries have been proved that there are no other locations available.

d. "De Weerribben" nature reserve is a dominating part of the National Park "De Weerribben": 90 % of the Park is under the management of Staatsbosbeheer; the other 10% is reedbeds and grasslands owned and managed by other authorities or by private persons.

When the Minister granted "De Weerribben" nature reserve the status of proposed National Park at the end of 1986, he also set up a consultative body. This Consultative Board, in which not only land-owners and managers participate, but also other parties directly concerned (such as representatives of the provincial and local governments, of the Water Authority and of the reed-cutters), was assigned the task of drawing up a management and development plan. This Management and Development Plan aims at ensuring the proper management and preservation of the national park as a whole. The plan was drawn up, proposed to the local population and then submitted to the State Secretary of Agriculture, Nature Management and Fisheries. The Plan includes also a commitment between the different levels of government concerning the preservation of the ecological and culture historical values of the area; a commitment that shall be effected in the town and country planning of the Province as well as of the Community. The Secretary of State decided to grant this region the official status of National Park in June 1992, on the basis of this plan.

e. A proper management is essential since the landscape of "De Weerribben" has been shaped by men.

The management of Staatsbosbeheer is based on the "Management plan 1988-1998". The aim is:

- the conservation, the renovation and/or the redevelopment of the ecosystem of marshlands: the communities of open water, rich-fens, reedbeds, peatheather, bogs, poor grasslands, shrubs and carr woodland,
- the conservation of the character of the peatland landscape with its rich variety in structures and ecotypes.

- special attention to a proper water management, as an essential prior condition for the care for the vulnerable ecosystems
- facilities for the public, to notice and enjoy the values of nature.

If the landscape were to be left to develop naturally, the peat ditches and the atrophic hayfields would develop into one big carr woodland. Although this would be a natural development, the diversity of plant- and wildlife would gradually deteriorate and result in the loss of the ecological value of the entire region. As a result, most of the plant- and wildlife would disappear. This is why the types of landscape which occur in part of the region must be left in their original, natural state so that the various stages of natural development can be preserved. This requires the regular mowing and cutting of the hayfields and the reedbeds. Ditches must also be continually dredged and properly maintained. About one third of "De Weerribben" may be left to develop into a natural carr woodland without interference by man. As already said, water is the dominating element in the reserve. The availability of water of the right quality and of the right quantity is of vital importance for all prevailing plant communities and associated wildlife.

Within the reserve is a zoning system: some parts are accessible for the general public, some parts only for interested visitors, and some parts are closed for the public. "De Weerribben" is an extremely vulnerable nature reserve providing a habitat for numerous species of wildlife and birds that are easily disturbed. The disturbance of wildlife can result in their gradual disappearance from the region. Several peat-holes have been closed off to all watervessels. In order to ensure as much peace and quiet as possible, special regulations have been drawn up concerning the use of motor-boats.

Though, "De Weerribben" is suitable for various kinds of natural recreation focused on nature. In and around "De Weerribben" these forms of recreation include: boating, canoeing, cycling and walking. Provisions have been made to allow this type of recreation: canoeing routes with route descriptions, landing places and information panels. There are also places to have a picnic, as well as nature trails and walking and cycling paths. The possibilities for walking and cycling are more limited in a region with such an abundance of water than they are for canoeing or boating. For walking there are two circular routes along a nature trail. Visitors may also participate in guided tours, as well as in boating and bicycle excursions, excursions to the duck decoy and to the bird observation post. Extensive cycling trips can be made along the many cycling paths around "De Weerribben". Apart from canoes and rowing boats, visitors may also hire low-noise, battery-operated motor-boats.

A fully renovated visitor's centre has been located since 1991 near the village of Ossenzijl. Here, visitors can orientate on the surrounding region, apply for excursions or obtain information on topics as wildlife, plantlife, nature management, duck decoys and other matters concerning "De Weerribben" nature reserve.

The management staff of "De Weerribben" counts 31 persons. The yearly budget is circa HFl. 2.500.000,-, inclusive the costs of staffing. "De Weerribben" is wardened all year round. The wardening is intensified during the breeding season (from April till mid July) and also during the holidayseason (July-August).

f. "De Weerribben" is protected by physical planning measures. On the



structure of regional and local plans the area is protected against all human activities that can effect the scientific value of the area.

7. References to published descriptions:

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- d. Overlegorgaan Nationaal Park i.o. "De Weerribben"  
Beheers- en inrichtingsplan voor het Nationaal Park "De Weerribben", 1990
- e. Staatsbosbeheer  
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- f. Visser, J.  
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- g. Westhoff, V, & A.J. den Held,  
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- h. Westhoff, V., P.A. Bakker, C.G. van Leeuwen & E.E. van der Loo  
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- i. Van Wirdum, G.  
Vegetation and hydrology of floating rich-fens. Thesis; University of Amsterdam, 1990
- j. Woets, D.  
"De Weerribben", Stichting vrienden van de Weerribben, 1980
- k. Woets, D.  
Vogelleven in "De Weerribben", Stichting vrienden van de Weerribben, 1985

- Appendix 1: Scheme of classification of the vegetation  
2: Bird-species of the Red-List, breeding in "De Weerribben".  
3.a: Map on scale 1:250.000  
   b: Map on scale 1: 50.000  
4: Photographs

NL-Driebergen, 14 january 1994  
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Appendix 1: Scheme of classification of the vegetation that appear in  
"De Weerribben", according to Westhof and Den Held (1975):

|                                      |                                     |
|--------------------------------------|-------------------------------------|
| <u>Lemnon minoris</u>                | <u>Phragmition</u>                  |
| Lemno-Spirodeletum                   | Scirpetum lacustris                 |
| Wolffio-Lemnetum gibbae              | Thyphetum angustifoliae             |
| Lemno-Azolletum filiculoides         | Scirpo-Phragmitetum                 |
| Riccietum fluitans                   | Thyphetum latifoliae                |
| Sociation of Lemna minor             | Communion of Acorus calamus and     |
| Charatea                             | Iris pseudacorus                    |
| <u>Magnopotamion</u>                 | Sociation of Equisetum fluviatile   |
| Potametum lucentis                   | Sociation of Glyceria maxima        |
| Potametum pectinato-perfoliati       | Thelypterido-Phragmitetum           |
| <u>Nymphaeion</u>                    | <u>Oenanthion aquaticae</u>         |
| Nymphoidetum peltatae incl. subass.  | Rorippo-Oenanthetum aquaticae       |
| with Polygonum amphibium f. natans   | Sparganio-Sagittarietum             |
| Potameto-Nupharetum incl. subass.    | <u>Magnocaricion</u>                |
| hippuridetosum                       | Cladietum marisci                   |
| <u>Parvopotamion</u>                 | Caricetum paniculatae incl. subass. |
| Ceratophylletum demersi              | caricitosum acutiformis             |
| Potametum obtusifolii                | Caricetum hudsonii                  |
| Potametum trichoides                 | Caricetum ripariae                  |
| Potametum friesii                    | Sociation of Phalaris arundinacea   |
| Ranunculetum circinati               | <u>Calthion palustris</u>           |
| Hottonio-Myriophylletum verticil.    | <u>Filipendulion</u>                |
| <u>Hydrocharition</u>                | Valeriano-Filipenduletum            |
| Hydrocharito-Stratiotetum            | <u>Junco-Molinion</u>               |
| Sociation of Utricularia vulgaris    | Cirsio-Molinietum                   |
| Callitricho-Batrachion               | <u>Arrhenatherion elatioris</u>     |
| Callitricho-Hottonietum              | Lolio-Cynosuretum                   |
| <u>Potamion graminei</u>             | <u>Caricion curto-nigrae</u>        |
| <u>Littorellion uniflorae</u>        | Caricetum curto-echinatae           |
| <u>Bidention</u>                     | Sphagno-Caricetum lasiocarpae       |
| Polygono-Bidentetum                  | Pallavicinia-Sphagnetum             |
| <u>Polygono-Chenopodion</u>          | <u>Caricion davallianae</u>         |
| <u>Sisymbriion</u>                   | Scorpidio-Caricetum diandrae        |
| <u>Lolio-Plantaginion</u>            | app. ass. Scorpidio-Utricularietum  |
| <u>Agropyro-Rumicion crispi</u>      | <u>Erico-Sphagnion</u>              |
| <u>Lolio Potentillion anserinae</u>  | Sphagnetum palustri-papilloso       |
| Rumici-Alopecuretum geniculati       | <u>Violion caninae</u>              |
| Poo-Lolietum                         | <u>Salicion cinereae</u>            |
| Ranunculo-Alopecuretum geniculati    | Myricetum gale                      |
| Triglochino-Agrostietum stolonif.    | Frangula-Salicetum auritae          |
| <u>Arction</u>                       | Alno-Salicetum cinereae             |
| <u>Galio-Alliarion</u>               | Salicetum pentandro-cinereae        |
| <u>Aegopodium podagrariae</u>        | <u>Lonicero-Rubion sylvatici</u>    |
| app. ass. Soncho-Epilobietum hirsuti | <u>Alnion glutinosae</u>            |
| app. ass. Communion of Euphorbia     | Carici-elongatae-Alnetum            |
| palustris                            | Thelypterido-Alnetum                |
| app. ass. Sociation of Epilobium     | <u>Quercion robori-petraeae</u>     |
| hirsutum                             | Alno-Quercetum                      |
| <u>Epilobion angustifolii</u>        | <u>Alno-Padion</u>                  |
| <u>Glycerio-Sparganion</u>           | <u>Circaeio-Alnion</u>              |
| <u>Cicution virosae</u>              | Macrophorbio-Alnetum                |
| Cicuto-caricetum pseudocyperii       |                                     |

Appendix 2:

- a. Species of birds mentioned on the so-called red-list,  
breeding in "De Weerribben":

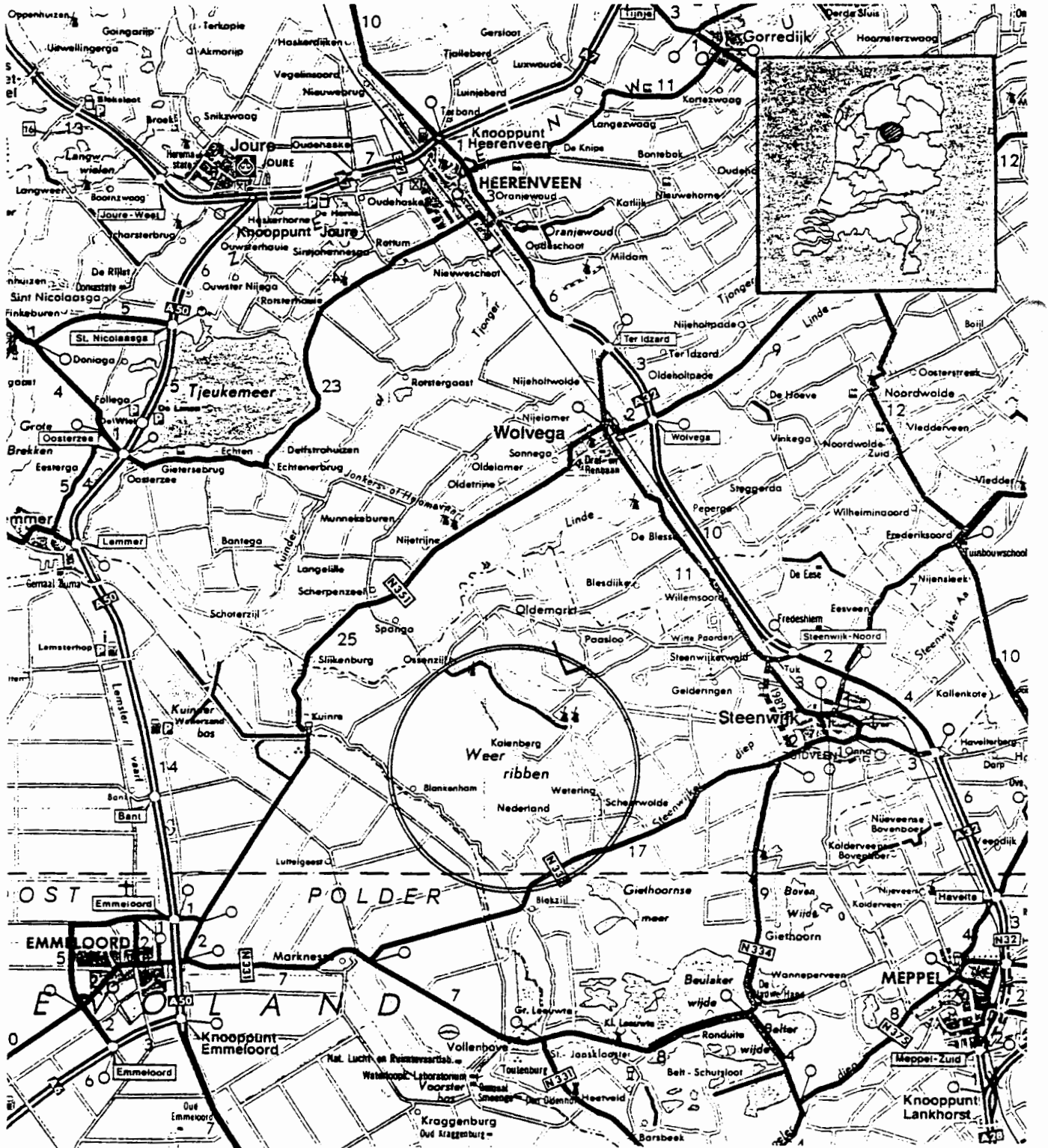
|                     |                                   |
|---------------------|-----------------------------------|
| Bittern             | <i>Botaurus stellaris</i>         |
| Purple Heron        | <i>Ardea purpurea</i>             |
| Greylag Goose       | <i>Anser anser</i>                |
| Garganey            | <i>Anas querquedula</i>           |
| Marsh Harrier       | <i>Circus aeruginosus</i>         |
| Hen Harrier         | <i>Circus cyaneus</i>             |
| Spotted Crake       | <i>Porzana porzana</i>            |
| Snipe               | <i>Gallinago gallinago</i>        |
| Black-tailed Godwit | <i>Limosa limosa</i>              |
| Redshank            | <i>Tringa totanus</i>             |
| Black Tern          | <i>Chlidonias niger</i>           |
| Barn Owl            | <i>Tyto alba</i>                  |
| Short-eared Owl     | <i>Asio flammeus</i>              |
| Bluethroat          | <i>Luscinia svecica</i>           |
| Sedge Warbler       | <i>Acrocephalus schoenobaenus</i> |
| Great Warbler       | <i>Acrocephalus arundinaceus</i>  |
| Whitethroat         | <i>Sylvia communis</i>            |
| Bearded Tit         | <i>Panurus biarmicus</i>          |

- b. Species of birds mentioned in the so called red-list,  
regular noticed, but not for sure breeding in "De Weerribben":

|                   |                              |
|-------------------|------------------------------|
| Cormorant         | <i>Phalacrocorax carbo</i>   |
| Night Heron       | <i>Nycticorax nycticorax</i> |
| Kingfisher        | <i>Alcedo atthis</i>         |
| Whinchat          | <i>Saxicola rubetra</i>      |
| Great Grey Shrike | <i>Lanius excubitor</i>      |

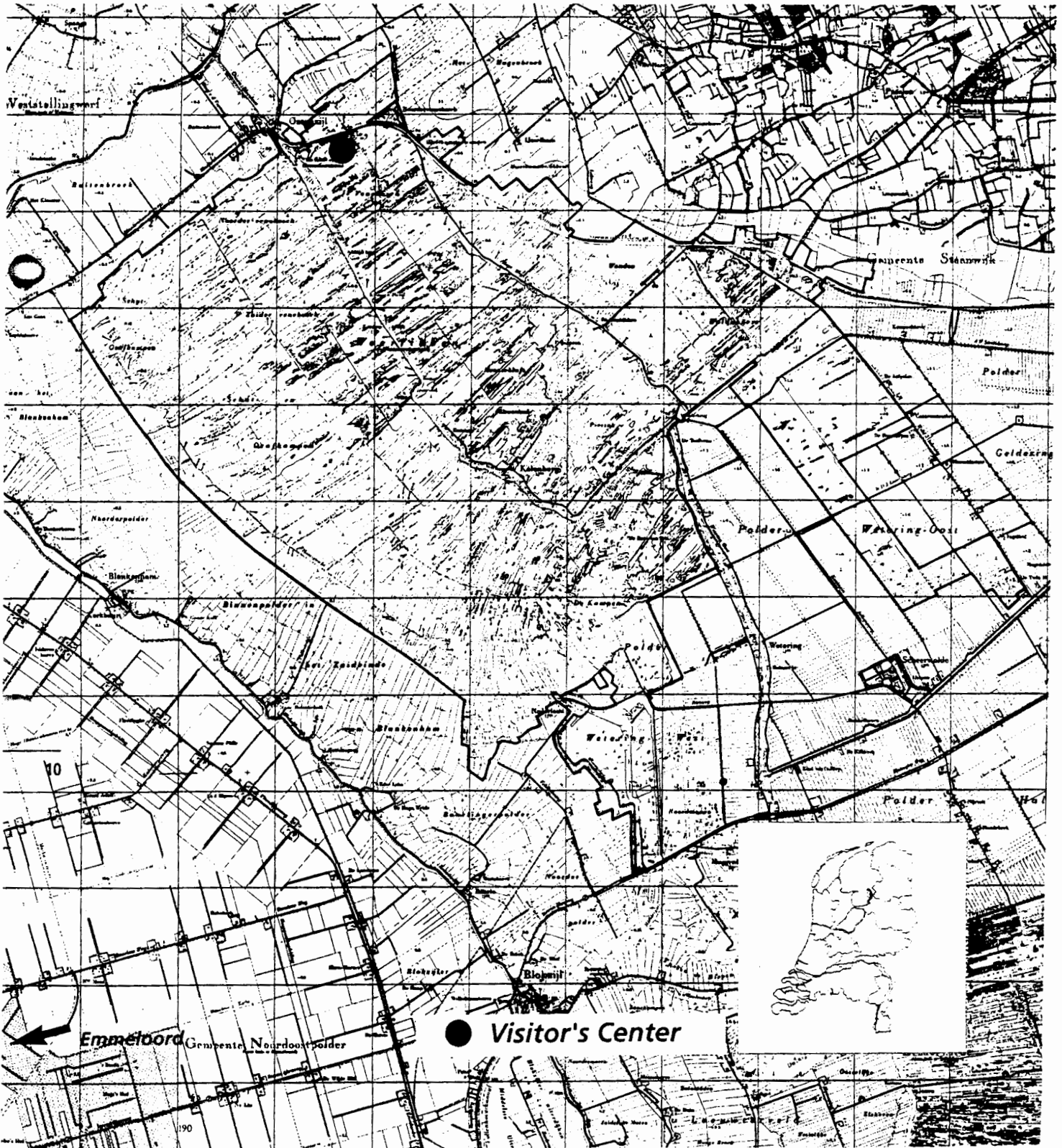
Appendix 3.a: "De Weerribben", situated between Steenwijk and Emmeloord, in the north of The Netherlands.

Scale 1 : 200.000



Appendix 3.b: Global situation of "De Weerribben" nature reserve,  
in the north west of the province of Overijssel.  
nb: within these boundaries, 10 % is enclaves of other  
authorities and privat persons.

Scale 1 : 50.000



1



Photo 1

Peat-hole with vegetation of water soldier (*Stratiotes aloides*).

2



Photo 2

Peat-hole with vegetation of frogbit (*Hydrocharis morsus-ranae*).



Photo 3

Peat-hole with vegetation of common waterlily (*Nymphaea alba*); reed (*Phragmites australis*) along the shores and carr woodland on the banks.

3



4

Photo 4

Flowers of the common waterlily (*Nymphaea alba*).

5

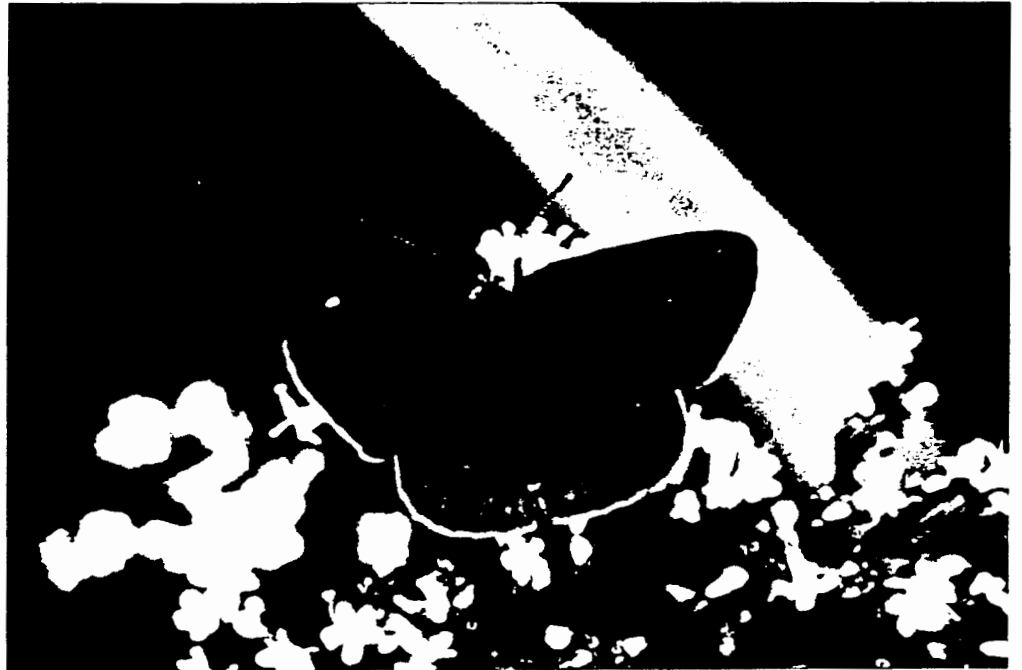


Photo 5

The Large Copper (*Lycaena dispar* subsp. *batava*) is the most remarkable butterfly in the region.



6

Photo 6

Curlew (*Numenius arquata*) is a breeding-bird of reedlands.

7



Photo 7

A part of the "Kooi van Pen",  
one of the two duck decoys.

8



Photo 8

Little windmills alongside  
one of the canals.

9



Photo 9

Reed-cutting in wintertime.



10



Photo 10

The "spinnepkopmolen", a windmill which is still used for the regulation of the waterlevel in a small part of the nature reserve.



11

staatsbosbeheer

bezoekerscentrum



Photo 11

The visitor's centre near the village of Ossenzijl.