NATIONAL REPORT ON THE IMPLEMENTATION OF THE AGREEMENT ON THE CONSERVATION OF BATS IN EUROPE

THE KINGDOM OF THE NETHERLANDS

A. General information

Name of the Party	: Kingdom of the Netherlands
Date of entry	: 17 March 1992
Date of report	: May 2000
Period covered	: 1998 and 1999
Competent Authority	: Ministry of Agriculture, Nature Management and Fisheries, Department of Nature Management, Division of International Affairs, Mr Jan-Willem Sneep, PO Box 20401, 2500 EK The Hague, The Netherlands, Tel. +31 (0)70 3785255, Fax: +31 (0)70 3786146 E-mail: j.w.sneep@n.agro.nl
Appointed member of the Advisory Committee,	: Mr Peter H.C. Lina, Ministry of Agriculture, Nature Management and Fisheries, c/o PO Box 835, 2300 AV Leiden, The Netherlands. Tel. +31 (0)70 3784819 Tel. +31 (0) 653516942 Fax: +31 (0)70 3786146 E-mail: p.h.c.lina@n.agro.nl

Mr P.H.C. Lina was acting vice-chairman of the Advisory Committee from 1 January 1998 to 15 August 1999, and is acting chairman of Committee as from 15 August 1999 on. He is also acting member of the Comittee's intersessional working groups on Consistant Monitoring Methodologies and on Action 22 of the Bat Conservation Management Plan regarding effects of pesticides on bats.

B. Status of bats within the territory of the Party

1. Summary details of resident species

In the Netherlands, 21 bat species have been recorded. Two single specimens of *Eptesicus nilssonii* were recorded from oil rigs in the North Sea. *Nyctalus lasiopterus* was observed in one case. Both species are regarded as being non-native. The remaining 19 species are recognized as native, although two of them, *Rhinolophus ferrumequinum* and *Rhinolophus hipposideros*, are regarded as extinct, and two, *Barbastella barbastellus* and *Myotis bechsteinii,* are rare. However, it has to be taken into account that the latter 4 species have their northern range limits in the southernmost part of the Netherlands. Breeding colonies are not recorded for *Rhinolophus ferrumequinum, Myotis brandtii, Myotis bechsteinii, Barbastella barbastellus* and *Vespertilio murinus. Pipistrellus nathusii* is regarded as a common species. From the second half of May to the first half of August, the majority of its population consists of males; in contrast with autumn, winter and spring, when females are also common. *Myotis daubentonii, Pipistrellus pipistrellus,* and *Eptesicus serotinus* are also common species. See below for population estimates of all native species.

2. Status and trends

Population estimates and Red List categories

Species	Population estimates	Category
Rhinolophus ferrumequinum	-	extinct
Rhinolophus hipposideros	-	extinct
Myotis mystacinus	2,500-4,000	not threatened
Myotis brandtii	275-350	susceptible
Myotis nattereri	1,500-3,000	vulnerable
Myotis emarginatus	300-500	endangered
Myotis daubentonii	15,000 - 30,000	not threatened
Myotis dasycneme	8,000 - 10,000	not threatened
Myotis myotis	10 - 15	endangered
Myotis bechsteinii	?	susceptible
Pipistrellus pipistrellus	300,000 - 600,000	not threatened
Pipistrellus nathusii	50,000 - 100,000	not threatened
Eptesicus serotinus	30,000 - 50,000	not threatened
Nyctalus noctula	6,000 - 8,000	not threatened
Nyctalus leisleri	100 - 500	not threatened
Vespertilio murinus	50 - 250	not threatened
Barbastella barbastellus	?	susceptible
Plecotus auritus	4,000 - 6,000	not endangered
Plecotus austriacus	25 - 100	susceptible

Trends in species with a current status of extinct, rare, or endangered

The distribution of both Rhinolophoid species was restricted to Southern Limburg.

Rhinolophus ferrumequinum has not been recorded in the limestone area of Southern Limburg since 1970. A single specimen was hibernating annually since the winter of 1991/1992 in an old fortress in the central part of the Netherlands. The latest observation was from 23 February 1998.

Rhinolophus hipposideros has not been recorded since 1983. Its occurrence was restricted to the limestone area of Southern Limburg.

The winter population of *Myotis emarginatus* in the limestone area of Southern Limburg is still increasing. The maternity colony, discovered in the late 1980s in a cavity under the roof of a monastery near the town of Echt (province of Limburg), is also still increasing its population. In July 1999, the population was about 480 individuals, consisting of adult females and their offspring.

The current winter population of *Myotis myotis* is very small but more or less stable. No maternity colonies are known.

Summer and winter observations of *Myotis bechsteinii* have always been restricted to the subterranean limestone quarries in Southern Limburg, and in very low numbers. In 1998, single specimens were found in an artificial winter roost in the province of Overijssel (Dijkstra & Hoeve, 1999), and as a summer record in a bird box in a forest area in Southern Limburg (Verheggen, 1999a).

Barbastella barbastellus has always been a very rare species, mainly in the southernmost part of the country (Southern Limburg and Zeeland Flanders). The last record is from 1994.

Vespertilio murinus has been recorded nearly 30 times as single specimens since 1977. In 1998, the first colony of this species was recorded from a cavity wall of a single-family house in a town in the central part of the country (Jansen & Van Noort, 1998). The colony numbered at least 25 individuals; two males and one female were trapped but it is not yet clear if it is a maternity colony, or a summer colony mainly consisting of males.

3. Habitats and roost sites

Hollow trees are the only available natural roosts for bats in the Netherlands. Apart from these roosts, there are many types of man-made constructions available that can also be used by bats either in summer or winter, e.g. subterranean limestone quarries, old fortresses, ice-houses, bunkers, cellars, spaces under roofs, and cavity walls of buildings. Bat boxes are being applied in several localities. A diversity of landscapes can provide suitable feeding habitats for bats.

4. Threats

The threats to bat populations are due to loss of suitable habitats from the reconstruction of roof cavities and insulation of cavity walls of buildings, the felling of hollow trees, the deterioration and fragmentation of the landscape, the improved management in agriculture and forestry, the loss of linear vertical landscape elements and feeding grounds, the use of pesticides, and pollution.

5. Data collection

Data are collected by a few national and regional natural history bodies and are entered in compatible databases. Data are mainly used to determine species distribution and population changes (monitoring).

C. Measures taken to implement Article III of the Agreement

6. Legal measures taken to prevent the deliberate capture, keeping or killing of bats, including details of enforcement actions used to support such measures

As reported previously, all bat species have been strictly protected by the Nature Conservation Act since 1973. The competent authority for this Act is the Ministry of Agriculture, Nature Management and Fisheries.
In addition to being a Party to the Bats Agreement, the Netherlands is also a Party to the Convention on the Conservation of European Wildlife and Natural Habitats (Council of Europe, Bern Convention). All bat species, apart from *Pipistellus pipistrellus*, are listed in Appendix II to this Convention. *Pipistrellus pipistrellus* is listed in Appendix III to the Convention. However, in the Netherlands, *Pipistrellus pipistrellus* has the same conservation status as the Appendix II species.
The Netherlands is also bound by the provisions of Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and Wild Fauna and Flora (Habitats Directive). Seven native or formerly native species, (*Rhinolophus ferrumequinum), (Rhinolophus hipposideros), Barbastella barbastellus, Myotis bechsteinii, Myotis dasycneme, Myotis emarginatus* and *Myotis myotis*, are listed in Annex II to this Directive, and their conservation requires the designation of special areas of conservation. In the Netherlands, however, such areas are not yet specially designated for bats but several of these areas are covered by designations in accordance with the provisions of the Directive 79/409/EEG of 2 April 1979 (Bird Directive). All native bat species are included in Annex IV to the Directive, indicating the need for strict protection of these species.

7. Sites identified and protected which are important to the conservation of bats

Important areas and sites have been identified for several species (Dijkstra, 1997): *Myotis myotis* (6 hibernation areas), *Myotis dasycneme* (5 summer areas, 6 subterranean limestone quarries, 4 bunkers and 1 ice-house), *Nyctalus leisleri* (9 summer areas), and *Plecotus auritus* (7 areas). The majority of *Myotis dasycneme* is hibernating in former Second World War bunker systems in the coastal dune area of Meijendel with a minimum of 239 specimens. This area has been nominated as a special area of conservation in accordance to the provisions of the Habitats Directive. At least 32 maternity colonies, each with a minimum of

10 and a maximum 400 adults, of *Myotis dasycneme* have been recorded.
The majority of the subterranean limestone quarries in Southern Limburg, being important as bat winter roosts, are covered by nature management. In addition, many other artificial winter roosts, as bunkers, ice-houses, cellars and ancient fortresses, are managed for the benefit of bats.

8. Consideration given to habitats which are important to bats

As reported previously, the Dutch government adopted the Nature Policy Plan in June 1990. The main objectives of this plan are the sustainable conservation, rehabilitation and development of nature and landscape in the Netherlands, also in the field of international species conservation.
The Nature Policy Plan contains a long-term strategy. The plan sets out the objectives and outlines the government's nature and landscape policy and priorities for a period of approximately thirty years.

Since 1990, many projects and actions have been implemented. The realisation of the National Ecological Network (NEN) has also begun. The NEN is a coherent network of areas, forming a sustainable basis for the ecosystems and species considered to be important in the (inter)national context. The network consists of core areas, nature development areas and ecological corridors. The sustainable development is supported by a buffer policy aimed at removing or minimising negative external influences on the core areas. Conservation measures for bat species will be taken partly in the form of habitat conservation, particularly through the realisation of the NEN.

9. Activities carried out to promote the awareness of the importance of the conservation of bats

- The "Museon" Municipal Museum in The Hague held an exhibition entitled "Bats, masters of the night" from 25 April to 1 November 1998. The exhibition attracted 109,873 visitors. An 82-page brochure of the same name was distributed among the visitors. A part of the revenue from the exhibition was used as a contribution to the conversion of 3 former Second World War bunkers near The Hague into winter roosts (see also under section C 11).

- The European Bat Night 1998 was held in the Netherlands on 11 September and was organised by the Netherlands Bats Group of the Dutch-Belgian Mammal Society. This event was made public with a full-colour illustrated article reporting a night excursion with a local bat worker. The article was published in the August issue of De Kampioen (The Champion), a monthly magazine published by the Royal Dutch Touring Club (ANWB) which circulated 3.3 million copies. Readers of the monthly could register to take part in one of the bat night excursions to be held on 76 sites across the country. Ultimately, 10,687 people registered to take part in an excursion. 3477 people were selected to join one of the excursion groups. For the remaining 7210 people interested, excursions were held in summer 1999 and during the European Bat Night 1999. Besides the publicity support by the Royal Dutch Touring Club, the bat night activities were also sponsored by the Prince Bernhard Fund, BioQuip Instruments, the M.A.O.C. Gravin van Bylandt Foundation, Ex'tent Charities, Jurriëns Contractor, and the VSB Fund. A special

Bat Night leaflet "Vleermuizen, het mysterie ontrafeld" ("Bats, the mystery unravelled") was issued. The European Bat Night 1999 was held on 4 September, and had the same organisers as in 1998. The Prince Bernhard Fund sponsored this event once more with a substantial contribution.

- A leaflet entitled "Vleermuizen in huis" ("Bats as guests") was issued to inform householders having bats in cavities of their houses. This leaflet was an initiative of the Provincial authorities of Northern Holland and was issued in 1995. A reprint of this leaflet was issued under the auspices of the Dutch-Belgian Mammal Society for national circulation and was financed by the Ministry of Agriculture, Nature Management and Fisheries, the joint Provincial authorities of Groningen, Friesland, Drenthe, Utrecht, Northern Holland, and Northern Brabant, and the Landscape Management Foundation of Limburg. A similar leaflet "Vleermuizen in en om huis" ("Bats in and around the house") was issued as a joint production of the Provincial authorities of Southern Holland and the Southern Holland Mammal Study Group. Another leaflet, "Vleermuizen in Overijssel" ("Bats in the province of Overijssel"), with general information about bats was issued as a joint production of the Overijssel Nature and Environment Foundation and the Overijssel Mammal Study Group.

- The Foundation for Building Research in Rotterdam has issued a manual for the application of nest and roost constructions in buildings for birds and bats respectively (Koning et al., 1999).

- The former Bat Research Agency has issued a leaflet "Vleermuizen onder dak" ("A roof for bats") to improve bat-friendly management in roof cavities of churches and other monumental buildings.

- The Landscape Management Foundation of Limburg has set up a network of volunteers and of local government officials involved in pest control to act as consultants in cases of bat colonies in houses and other buildings. A training programme has been developed for the consultants. This project was financially supported by the Ministry of Agriculture, Nature Management and Fisheries, the Provincial authorities of Limburg, the World Wildlife Fund of the Netherlands, the Anjer Fund Limburg, and the National Postcode Lottery.

10. Responsible bodies, in accordance with article III.5 of the Agreement, nominated for the provision of advice on bat conservation and management

A responsible body in accordance with article III.5 of the Agreement has not yet been established. Advice on bat conservation and management is provided by individual bat experts on request.

11. Additional actions undertaken to safeguard populations of bats

- The Netherlands Landscape Management Foundation has constructed new, or safeguarded existing winter roosts in the following provinces:

Province of Drenthe:
conversion of an old vault into a winter roost.
Province of Overijssel:
construction of 2 new cellars.
Province of Flevoland:
construction of a new cellar.
Province of Northern-Holland:
conversion of several old ice-houses and fortresses, and former Second World War bunkers into winter roosts;
Province of Northern-Brabant:
conversion of an old ice-house into a winter roost.
Province of Limburg:
conversion of 5 former Second World War bunkers into winter roosts;
conversion and grilling of entrances of 2 subterranean limestone quarries;
conversion of an ancient ice-house into a winter roost.
Province of Zeeland:
conversion of several former Second World War bunkers and spaces in inner dike sluices into winter roosts.

- The Gelderland Bat Group and other organisations in the province of Gelderland have carried out construction works on several cellars, bunkers and ice-houses to improve the conditions for hibernating bats in these objects. A few new artificial winter roosts were also constructed.

- The Southern Holland Mammal Study Group Mammal has reconstructed 3 former Second World War bunkers into winter roosts with joint financial support from The Hague's Municipal Museum "Museon", the VSB Fund, the Municipality of The Hague, the Provincial authorities of Southern Holland, the Anjer Fund of The Hague, the Animal Relief Fund, the M.A.O.C. Gravin van Bylandt Foundation, the Haëlla Foundation, the Heimans and Thijsse Foundation, and the De Linde Foundation.

- The Landscape Management Foundation of Limburg has set up a management plan to improve church roof cavities and landscape corridors as suitable summer habitats within the province of Limburg (Hoogeveen & Verheggen, 1997). In 1998 and 1999, measures to improve roof cavities as summer roosts were carried out in 25 and 23 churches respectively. In 1997, this number was 34.

12. Recent and ongoing programmes (including research) relating to the conservation and management of bats

- The monitoring project on bat rabies, started in 1986, was continued. As of 1 January 2000, 3,449 bats, belonging to 11 species, have been examined for rabies. The results for 1998 and 1999 are given below.

Species and their numbers examined for rabies in 1998 and 1999

Species	**1998**	**1999**
Myotis daubentonii	1	3
Myotis dasycneme	3	3
Pipistrellus pipistrellus	38	23
Pipistrellus nathusii	12	4
*Eptesicus serotinus**	35 (6)*	27 (2)*
Nyctalus noctula	1	1
Plecotus auritus	7	4
Total	97	65

*) positive cases

- The previously reported long-term study on the ecology of *Pipistrellus nathusii* in the Netherlands and on its seasonal migration between the Netherlands and Central and Eastern European countries is continued.

- The study on the functions of vertical landscape elements for bats carried out by Alterra, Green World Research (the former Institute for Forestry and Nature Research), in co-operation with the Netherlands Bat Research Foundation and the Department of Terrestrial Ecology and Nature Management of the Wageningen Agricultural University, has resulted in a PhD thesis (Verboom, 1998a).

- An inventory of the problems dealing with inquiries regarding building-dwelling bats was made by the Dutch-Belgian Mammal Society (Hollander, 1998a), and was financially supported by the Ministry of Agriculture, Nature Management and Fisheries.

- The National Bat Action Plan 1988 was evaluated by the Dutch-Belgian Mammal Society (Hollander, 1998b), This evaluation project was also financially supported by the Ministry of Agriculture, Nature Management and Fisheries.

- Environmental impact assessment reports focused on bats have been issued for 8 different areas (Mertens, 1999; Mostert, 1998; Spoelstra, 1998a; Twisk, 1999b; Verboom, 1998b,c; Verheggen, 1998b, 1999b).

- A management approval study of bats was made in an industrial area in the Municipality of Rotterdam and was financed by the City Harbour Service.

- Management approvals for the conservation of bats were issued for 11 different areas. (Dijkstra et al., 1999; Huitema & Verboom, 1999; Limpens, 1998a,b; Limpens & Verboom, 1999; Van Meurs & Van der Kuil, 1999; Spoelstra, 1998b; Verheggen, 1998b, 1999b; Wansink & van der Vliet, 1998)..

- A 10-year feasibility study, begun in 1997, is being carried out evaluating the use of bridge pier spaces as bat winter roosts (De Wijs, 1999a). This project is financially supported by the Ministry of Transport, Water Management and Public Works.

- A preliminary investigation has been made in the Nijmegen area with an eye to future use of church roof cavities as summer roosts (Limpens & Verboom, 1999). This project was financially supported by the Provincial authorities of Gelderland.

- A study was carried out as to the effectiveness of roof cavity surveys as a monitoring methodology of bat populations (Limpens & Verboom, 2000). This project was financially supported by Statistics Netherlands.

- An analysis was made of the utility of summer roost surveys for elaborating population trends of several bat species (van Diedenhoven & Wansink, 2000). This project was financed by the Dutch-Belgian Mammal Society.

- The national monitoring programme on mammals, as reported before, is carried out by the Dutch-Belgian Mammal Society, and includes four monitoring schemes for bats:
  1. Counts of hibernating bats, started in 1943;
  2. Transect counts of passing bats, started in 1990;
  3. Counts of advertising males of *Pipistrellus pipistrellus, Pipistrellus nathusii*, and *Nyctalus noctula,* started in 1990;
  4. Counts of bats in maternity roosts, started in 1994.
  This project is financially supported by both the Ministry of Agriculture, Nature Management and Fisheries and Statistics Netherlands.

- A monitoring project and seasonal activity study on *Pipistrellus pipistrellus, Plecotus auritus* and *Myotis daubentonii,* mainly roosting in bat boxes, is being carried out in the Rimburg Forest in Southern Limburg.

13. Consideration being given to potential effects of pesticides on bats, and efforts to replace timber treatment chemicals which are highly toxic to bats

The supply and use of remedial timber treatment (rtt) chemicals is regulated by the Board for the Authorisation of Pesticides. The registration process includes an assessment of exotoxicity to animals, plants and parts of plants whose preservation is desired, or to soil, water or air although bats are not specifically included in such an assessment. The instructions for the use of rtt treatment products do not refer to possible hazard to bats. Neither are recommendations given to the industry to minimise any hazard to bats as a result of rtt. Approved chemicals for rtt are synthetic pyretroids, boron compounds, propiconazole, azaconazole, and alkyldimethyl-benzyl-ammoniumchloride. The use of pentachlorphenol, aldrin, dieldrin, lindane, DDT, tributyl tin compounds, zinc compounds tebuconazole and polyphase iodo-propynyl-butyl-carbamate have been prohibited for rtt. The estimated number of roof cavities treated annually for wood-boring insects or wood-rotting fungi is less than 0.01% of private dwellings and public buildings.

D. Functions of the Agreement

14. Ratification

The amendments regarding the European free-tailed bat *Tadarida teniotis* to the text of the Agreement, as agreed at the first session of the Meeting of Parties, were ratified by the Netherlands on 6 March 1996.

15. Co-operation with other Range States

- The Netherlands' appointed member of the Advisory Committee, P.H.C. Lina, has been chairman of this Committee since August 1999 and is also acting as chairman of the Co-ordinating Panel for the Conservation of Bats in Europe. This Panel is a regional subgroup of the IUCN/SSC's Chiroptera Specialist Group. The main task of the Panel is to develop and implement collaboration on bat conservation activities in Europe under relevant intergovernmental treaties, especially the Bats Agreement, and for non-government concerns.
  P.H.C.Lina is also acting as joint vice-president of the Transboundary Association for Bat Protection, which has its seat in Luxembourg.

- H.J.G.A. Limpens (Ecoconsult & Project Management), P.H.C. Lina (Reference Centre for Bat Studies and Conservation) and A.M. Hutson (Bat Conservation Trust, UK) have drawn up the Action Plan for the Conservation of the Pond bat (Myotis dasycneme) in Europe. This action plan is a contribution to the Euro-Species Programme (Action Theme 11 of the Pan-European Biological and Landscape Diversity Plan) and was adopted with Recommendation no. 73 by the Standing Committee of the Bern Convention on 3 December 1999.

- H.J.G.A. Limpens (Ecoconsult & Project Management), has organised bat detector workshops in Bulgaria and Croatia. This project is financially supported by the German Federal Agency for Nature Conservation as a contribution towards the implementation of Eurobats transboundary programmes.

- Several bat workers from the Netherlands attended the VIIIth European Bat Research Symposium, held on 23-27 August 1999 in Cracow (Poland). Some of the bat workers were also attending the 4th European Bat Detector Workshop held after the symposium in the Pieniny National Park (Poland). The participation in the symposium and workshop was financially supported by the World Wildlife Fund the Netherlands and the Dutch-Belgian Mammal Society.
- The Netherlands also organised events in the framework of the European Bat Night in 1998 and 1999, initiated by the Eurobats Secretariat (see also under C 9).

E. Literature

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