EUROBATS National Implementation Report

In the Resolution 7.4, the 7th Meeting of Parties to EUROBATS decided to adopt a new format for the National Implementation Reports and instructed the Secretariat to make this new format available for online completion in time for MoP8.

Present format of national reports was carefully revised by the relevant Intersessional Working Group during the 20th Meeting of the Advisory Committee (2015) in order to include the Resolutions of MoP7 and is now available on the CMS Family Online Reporting System (ORS).

Please visit the Support Centre page in case of any questions regarding the Online Reporting System. The link is available in the bottom left corner.

A. General Information

Name of your country
› Kingdom of the Netherlands

Period covered by this report
› 2014-2017

Is your country a party to EUROBATS Agreement?
☑ Yes

Competent authority

Title, address, phone, fax, e-mail and other contact details
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P.O. 20401,
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B. Status of bat species within the territory

Please assess a national status ONLY for those bat species from the Annex 1 to EUROBATS Agreement that were recorded in your country

Rhinolophus ferrumequinum (Schreber, 1774)

Status of the species occurrence
☑ Extinct

General comments

Comments

Add specific comments, if required
› Extinct since the nineteen seventies, but an individual (vagrant/transported?) hibernating in the centre of the country in the mid nineteen nineties .

Status in the National Red List (when it exists)
☑ NE, not evaluated

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ No

Year of report
› 2013

Rhinolophus hipposideros (Bechstein, 1800)

Status of the species occurrence
☑ Extinct

General comments

Comments

Add specific comments, if required
› Extinct since the early nineteen eighties

Status in the National Red List (when it exists)
☑ RE, Regionally Extinct

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ No

Year of report
› 2013

Barbastella barbastellus (Schreber, 1774)

Status of the species occurrence
☑ Extinct

General comments

Comments

Add specific comments, if required
› Recently rediscovered in the Clingse bossen (forest near Klinge) at the border between Belgium and the Netherlands

Status in the National Red List (when it exists)
☑ RE, Regionally Extinct

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ No

Year of report
› 2013

Eptesicus nilssonii (Keyserling & Blasius, 1839)

Status of the species occurrence
☑ Occasional

General comments

Comments

Add specific comments, if required
› A single record in 2003, occasional records on oil platform and a single record in 2011.

Overall national trend
☑ Not studied

Status in the National Red List (when it exists)
☑ Other

Year of assessment
› 2006

Other categories

National Red List Status details
› vagrant

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ No

Year of report
› 2013

Eptesicus serotinus (Schreber, 1774)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› Wide spread.
Eptesicus serotinus has been categorised as ‘Vulnerable’ in the RL assessment in 2005/2005, because all anecdotal information available at that time suggested a loss of roosts and hunting sites and a decline of the population. Between 2005 and 2017 the recent anecdotal evidence suggests the same direction of development. This was a reason to organise a expert meeting regarding the species status and conservation effort in January of 2018, where all participating experts signalised a great concern regarding the fragile situation of the species.Car transect data (NEM VTT) are being collected since 2013. Using the since gathered data in different trend analysis models, some of the approaches show a positive trend. However, due to the still low number of repeats and the relative low number of observations the confidence intervals are still too big to already allow definite conclusions.

Overall national trend
☑ Indeterminate

Status in the National Red List (when it exists)
☑ VU, Vulnerable

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ Yes

Year of report
› 2013

Conservation status per biogeographical region

FV = favourable; U1 = unfavourable-inadequate; U2 = unfavourable-bad); XX = unknown.
NO = doesn't occur in the region

	FV	U1	U2	XX	NO
Alpine	☐	☐	☐	☐	☐
Atlantic	☐	☑	☐	☐	☐
Boreal	☐	☐	☐	☐	☐
Continental	☐	☐	☐	☐	☐
Macaronesian	☐	☐	☐	☐	☐
Mediterranean	☐	☐	☐	☐	☐
Arctic	☐	☐	☐	☐	☐
Black Sea	☐	☐	☐	☐	☐
Pannonian	☐	☐	☐	☐	☐
Steppic	☐	☐	☐	☐	☐
Anatolian	☐	☐	☐	☐	☐

Myotis bechsteinii (Kuhl, 1817)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› Concentrates in the southern limestone area, one known breeding colony, with individuals hibernating spread over the centre east of the country.

Overall national trend
☑ Indeterminate

Status in the National Red List (when it exists)
☑ NE, not evaluated

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?

☑ No

Year of report
› 2013

Myotis brandtii (Eversmann, 1845)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› In central and east part, with two roosts in the east

Overall national trend
☑ Positive

Status in the National Red List (when it exists)
☑ NE, not evaluated

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ Yes

Year of report
› 2013

Conservation status per biogeographical region

FV = favourable; U1 = unfavourable-inadequate; U2 = unfavourable-bad); XX = unknown.
NO = doesn't occur in the region

	FV	U1	U2	XX	NO
Alpine	☐	☐	☐	☐	☐
Atlantic	☐	☐	☑	☐	☐
Boreal	☐	☐	☐	☐	☐
Continental	☐	☐	☐	☐	☐
Macaronesian	☐	☐	☐	☐	☐
Mediterranean	☐	☐	☐	☐	☐
Arctic	☐	☐	☐	☐	☐
Black Sea	☐	☐	☐	☐	☐
Pannonian	☐	☐	☐	☐	☐
Steppic	☐	☐	☐	☐	☐
Anatolian	☐	☐	☐	☐	☐

Myotis dasycneme (Boie, 1825)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› Wide spread, but concentrates on the western and north-western lowland regions.
First information from roost counts indicate a slight negative trend.
- Haarsma A-J. &, M. Koopmans 2017. De Meervleermuis in Fryslân. Kennisontwikkeling voor monitoring. A&W-rapport 2418 Altenburg & Wymenga ecologisch onderzoek, Feanwâlden
- Haarsma, A.-J., J. Prescher & B. Noort, 2018. DE MEERVLEERMUIS IN DE WEERIBBEN-WIEDEN - Verslag van een inventarisatie uitgevoerd in de zomer van 2016. Rapport Veldwerkgroep Zoogdiervereniging en Zoogdierenwerkgroep Overijssel.

Overall national trend
☑ Negative

Status in the National Red List (when it exists)
☑ LC, Least Concern

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ Yes

Year of report
› 2013

Conservation status per biogeographical region

FV = favourable; U1 = unfavourable-inadequate; U2 = unfavourable-bad); XX = unknown.
NO = doesn't occur in the region

	FV	U1	U2	XX	NO
Alpine	☐	☐	☐	☐	☐
Atlantic	☑	☐	☐	☐	☐
Boreal	☐	☐	☐	☐	☐
Continental	☐	☐	☐	☐	☐
Macaronesian	☐	☐	☐	☐	☐
Mediterranean	☐	☐	☐	☐	☐
Arctic	☐	☐	☐	☐	☐
Black Sea	☐	☐	☐	☐	☐
Pannonian	☐	☐	☐	☐	☐
Steppic	☐	☐	☐	☐	☐
Anatolian	☐	☐	☐	☐	☐

Myotis daubentonii (Kuhl, 1817)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› Wide spread

Overall national trend
☑ Positive

Status in the National Red List (when it exists)
☑ LC, Least Concern

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ Yes

Year of report
› 2013

Conservation status per biogeographical region

FV = favourable; U1 = unfavourable-inadequate; U2 = unfavourable-bad); XX = unknown.
NO = doesn't occur in the region

	FV	U1	U2	XX	NO
Alpine	☐	☐	☐	☐	☐
Atlantic	☑	☐	☐	☐	☐
Boreal	☐	☐	☐	☐	☐
Continental	☐	☐	☐	☐	☐
Macaronesian	☐	☐	☐	☐	☐
Mediterranean	☐	☐	☐	☐	☐
Arctic	☐	☐	☐	☐	☐
Black Sea	☐	☐	☐	☐	☐
Pannonian	☐	☐	☐	☐	☐
Steppic	☐	☐	☐	☐	☐
Anatolian	☐	☐	☐	☐	☐

Myotis emarginatus (Geoffroy, 1806)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› In south east, with two maternity roosts and hibernacula in limestone mines.

Overall national trend
☑ Positive

Status in the National Red List (when it exists)
☑ VU, Vulnerable

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ Yes

Year of report
› 2013

Conservation status per biogeographical region

FV = favourable; U1 = unfavourable-inadequate; U2 = unfavourable-bad); XX = unknown.
NO = doesn't occur in the region

	FV	U1	U2	XX	NO
Alpine	☐	☐	☐	☐	☐
Atlantic	☐	☐	☑	☐	☐
Boreal	☐	☐	☐	☐	☐
Continental	☐	☐	☐	☐	☐
Macaronesian	☐	☐	☐	☐	☐
Mediterranean	☐	☐	☐	☐	☐
Arctic	☐	☐	☐	☐	☐
Black Sea	☐	☐	☐	☐	☐
Pannonian	☐	☐	☐	☐	☐
Steppic	☐	☐	☐	☐	☐
Anatolian	☐	☐	☐	☐	☐

Myotis myotis (Borkhausen, 1797)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› Concentrates in the southern limestone area, with incidental individuals hibernating in the centre and west of the country.

Overall national trend
☑ Positive

Status in the National Red List (when it exists)
☑ RE, Regionally Extinct

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ Yes

Year of report
› 2013

Conservation status per biogeographical region

FV = favourable; U1 = unfavourable-inadequate; U2 = unfavourable-bad); XX = unknown.
NO = doesn't occur in the region

	FV	U1	U2	XX	NO
Alpine	☐	☐	☐	☐	☐
Atlantic	☐	☑	☐	☐	☐

Boreal	☐	☐	☐	☐	☐
Continental	☐	☐	☐	☐	☐
Macaronesian	☐	☐	☐	☐	☐
Mediterranean	☐	☐	☐	☐	☐
Arctic	☐	☐	☐	☐	☐
Black Sea	☐	☐	☐	☐	☐
Pannonian	☐	☐	☐	☐	☐
Steppic	☐	☐	☐	☐	☐
Anatolian	☐	☐	☐	☐	☐

Myotis mystacinus (Kuhl, 1817)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› Wide spread, but concentrates in the landscape on the higher sandy soils (dunes, central plateau and eastern).
Positive trend turned into a negative trend as a result of a strong decline in one particular hibernation site (potato cellar at WOII camp Westerbork), where between 2012 and 2017 the numbers declined from over 1000 to less than 100 hibernating individuals.
- Bouwens S., 2017. Citizen science onderzoek naar de bedreigde baardvleermuis in de aardappelkelder van Kamp Westerbork: eindrapportage. Rapport 2017.38. Bureau van de Zoogdiervereniging, Nijmegen.
- Jansen, E.A., R.G. Meijer, P. Arends, H.J.G.A. Limpens, en M.J. Schillemans, 2016. Teruggang aantal overwinterende baardvleermuizen in Kamp Westerbork I. Onderzoek naar mogelijke lokale oorzaken. Rapport 2106.012. Bureau van de Zoogdiervereniging, Nijmegen.
- Jansen, E.A., R. Meijer, P. Arends, G. Lelieveld, H.J.G.A. Limpens, V.J.A. Hommersen en M. Schillemans, 2017. Teruggang aantal overwinterende baardvleermuizen in Kamp Westerbork II - Vervolgonderzoek naar lokale oorzaken rond de aardappelkelder. Rapport 2017.26. Bureau van de Zoogdiervereniging, Nijmegen.

Overall national trend
☑ Negative

Status in the National Red List (when it exists)
☑ LC, Least Concern

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ Yes

Year of report
› 2013

Conservation status per biogeographical region

FV = favourable; U1 = unfavourable-inadequate; U2 = unfavourable-bad); XX = unknown.
NO = doesn't occur in the region

	FV	**U1**	**U2**	**XX**	**NO**
Alpine	☐	☐	☐	☐	☐
Atlantic	☐	☑	☐	☐	☐

Boreal	☐	☐	☐	☐	☐
Continental	☐	☐	☐	☐	☐
Macaronesian	☐	☐	☐	☐	☐
Mediterranean	☐	☐	☐	☐	☐
Arctic	☐	☐	☐	☐	☐
Black Sea	☐	☐	☐	☐	☐
Pannonian	☐	☐	☐	☐	☐
Steppic	☐	☐	☐	☐	☐
Anatolian	☐	☐	☐	☐	☐

Myotis nattereri (Kuhl, 1817)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› Wide spread, but concentrates in the landscape on the higher sandy soils (central plateau and eastern, and in dunes).

Overall national trend
☑ Positive

Status in the National Red List (when it exists)
☑ LC, Least Concern

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ Yes

Year of report
› 2013

Conservation status per biogeographical region

FV = favourable; U1 = unfavourable-inadequate; U2 = unfavourable-bad); XX = unknown.
NO = doesn't occur in the region

	FV	U1	U2	XX	NO
Alpine	☐	☐	☐	☐	☐
Atlantic	☑	☐	☐	☐	☐
Boreal	☐	☐	☐	☐	☐
Continental	☐	☐	☐	☐	☐
Macaronesian	☐	☐	☐	☐	☐
Mediterranean	☐	☐	☐	☐	☐
Arctic	☐	☐	☐	☐	☐
Black Sea	☐	☐	☐	☐	☐

Pannonian	☐	☐	☐	☐	☐
Steppic	☐	☐	☐	☐	☐
Anatolian	☐	☐	☐	☐	☐

Nyctalus lasiopterus (Schreber, 1780)

Status of the species occurrence
☑ Occasional

General comments

Comments

Add specific comments, if required
› Only found in conjunction with passive transport from the south of Europe

Overall national trend
☑ Not studied

Status in the National Red List (when it exists)
☑ Other

Year of assessment
› 2006

Other categories

National Red List Status details
› Vagrant / transported

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ No

Year of report
› 2013

Nyctalus leisleri (Kuhl, 1817)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› Predominantly eastern, recently more observations are made
Trend data on Nyctalus leisleri are not available. The number of observations of the species are currently growing as a result of using automated real time recorders e.g. in the car transect monitoring (NEM VTT) or in studies related to wind turbine planning. The car transect monitoring system (NEM VTT) is, however, not specifically targeting Leisler's bat, and the relatively low number of observations does not allow for trend analysis. It is not clear whether the increase of observations is a result of the enhanced observation probability due to the application of new observation techniques, or of a positive population trend.

Overall national trend
☑ Indeterminate

Status in the National Red List (when it exists)
☑ NE, not evaluated

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-

EU countries)?
☑ Yes

Year of report
› 2013

Conservation status per biogeographical region

FV = favourable; U1 = unfavourable-inadequate; U2 = unfavourable-bad); XX = unknown.
NO = doesn't occur in the region

	FV	U1	U2	XX	NO
Alpine	☐	☐	☐	☐	☐
Atlantic	☐	☐	☑	☐	☐
Boreal	☐	☐	☐	☐	☐
Continental	☐	☐	☐	☐	☐
Macaronesian	☐	☐	☐	☐	☐
Mediterranean	☐	☐	☐	☐	☐
Arctic	☐	☐	☐	☐	☐
Black Sea	☐	☐	☐	☐	☐
Pannonian	☐	☐	☐	☐	☐
Steppic	☐	☐	☐	☐	☐
Anatolian	☐	☐	☐	☐	☐

Nyctalus noctula (Schreber, 1774)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› Wide spread with some concentration on higher sandy soils
Nyctalus noctula has been categorised as ‘Vulnerable’ in the RL assessment in 2005/2005, because all anecdotal information available at that time suggested a loss of roosts and hunting sites and a decline of the population. Between 2005 and 2017 the recent anecdotal evidence suggests the same direction of development.
Car transect data (NEM VTT) are being collected since 2013. The since gathered data show a positive trend. However, due to the still low number of repeats and the relative low number of observations the confidence intervals are still too big to allow definite conclusions.

Overall national trend
☑ Indeterminate

Status in the National Red List (when it exists)
☑ VU, Vulnerable

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ Yes

Year of report
› 2013

Conservation status per biogeographical region

FV = favourable; U1 = unfavourable-inadequate; U2 = unfavourable-bad); XX = unknown.
NO = doesn't occur in the region

	FV	U1	U2	XX	NO
Alpine	☐	☐	☐	☐	☐
Atlantic	☐	☐	☑	☐	☐
Boreal	☐	☐	☐	☐	☐
Continental	☐	☐	☐	☐	☐
Macaronesian	☐	☐	☐	☐	☐
Mediterranean	☐	☐	☐	☐	☐
Arctic	☐	☐	☐	☐	☐
Black Sea	☐	☐	☐	☐	☐
Pannonian	☐	☐	☐	☐	☐
Steppic	☐	☐	☐	☐	☐
Anatolian	☐	☐	☐	☐	☐

Pipistrellus kuhlii (Kuhl, 1817)

Status of the species occurrence
☑ Occasional

General comments

Comments

Add specific comments, if required
› Only found in conjunction with passive transport from the south of Europe

Overall national trend
☑ Not studied

Status in the National Red List (when it exists)
☑ Other

Year of assessment
› 2006

Other categories

National Red List Status details
› vagrant/transported

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ No

Year of report
› 2013

Pipistrellus nathusii (Keyserling & Blasius, 1839)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› Wide spread, but predominantly males and no/hardly females in summer time.
National monitoring project based on car transects being developed and applied since 2013.

Overall national trend
☑ Indeterminate

Status in the National Red List (when it exists)
☑ NE, not evaluated

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ Yes

Year of report
› 2013

Conservation status per biogeographical region

FV = favourable; U1 = unfavourable-inadequate; U2 = unfavourable-bad); XX = unknown.
NO = doesn't occur in the region

	FV	U1	U2	XX	NO
Alpine	☐	☐	☐	☐	☐
Atlantic	☑	☐	☐	☐	☐
Boreal	☐	☐	☐	☐	☐
Continental	☐	☐	☐	☐	☐
Macaronesian	☐	☐	☐	☐	☐
Mediterranean	☐	☐	☐	☐	☐
Arctic	☐	☐	☐	☐	☐
Black Sea	☐	☐	☐	☐	☐
Pannonian	☐	☐	☐	☐	☐
Steppic	☐	☐	☐	☐	☐
Anatolian	☐	☐	☐	☐	☐

Pipistrellus pipistrellus (Schreber, 1774)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› Wide spread.
National monitoring project based on car transects being developed and applied since 2013.

Overall national trend
☑ Indeterminate

Status in the National Red List (when it exists)
☑ LC, Least Concern

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ Yes

Year of report
› 2013

Conservation status per biogeographical region

FV = favourable; U1 = unfavourable-inadequate; U2 = unfavourable-bad); XX = unknown.
NO = doesn't occur in the region

	FV	U1	U2	XX	NO
Alpine	☐	☐	☐	☐	☐
Atlantic	☑	☐	☐	☐	☐
Boreal	☐	☐	☐	☐	☐
Continental	☐	☐	☐	☐	☐
Macaronesian	☐	☐	☐	☐	☐
Mediterranean	☐	☐	☐	☐	☐
Arctic	☐	☐	☐	☐	☐
Black Sea	☐	☐	☐	☐	☐
Pannonian	☐	☐	☐	☐	☐
Steppic	☐	☐	☐	☐	☐
Anatolian	☐	☐	☐	☐	☐

Pipistrellus pygmaeus (Leach, 1825)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› Occasional records of individuals spread over country. Number of observations growing through new observation techniques
National monitoring project based on car transects being developed and applied since 2013. But abundance too little to allow for trend analysis

Overall national trend
☑ Indeterminate

Status in the National Red List (when it exists)
☑ NE, not evaluated

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ No

Year of report
› 2013

Plecotus auritus (Linnaeus, 1758)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› Wide spread, with some concentration on higher sandy soils.

Overall national trend
☑ Positive

Status in the National Red List (when it exists)
☑ LC, Least Concern

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ Yes

Year of report
› 2013

Conservation status per biogeographical region

FV = favourable; U1 = unfavourable-inadequate; U2 = unfavourable-bad); XX = unknown.
NO = doesn't occur in the region

	FV	U1	U2	XX	NO
Alpine	☐	☐	☐	☐	☐
Atlantic	☐	☑	☐	☐	☐
Boreal	☐	☐	☐	☐	☐
Continental	☐	☐	☐	☐	☐
Macaronesian	☐	☐	☐	☐	☐
Mediterranean	☐	☐	☐	☐	☐
Arctic	☐	☐	☐	☐	☐
Black Sea	☐	☐	☐	☐	☐
Pannonian	☐	☐	☐	☐	☐
Steppic	☐	☐	☐	☐	☐
Anatolian	☐	☐	☐	☐	☐

Plecotus austriacus (Fischer, 1829)

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› South, south-eastern

Overall national trend

☑ Positive

Status in the National Red List (when it exists)
☑ VU, Vulnerable

Year of assessment
› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ Yes

Year of report
› 2013

Conservation status per biogeographical region

FV = favourable; U1 = unfavourable-inadequate; U2 = unfavourable-bad); XX = unknown.
NO = doesn't occur in the region

	FV	U1	U2	XX	NO
Alpine	☐	☐	☐	☐	☐
Atlantic	☐	☐	☑	☐	☐
Boreal	☐	☐	☐	☐	☐
Continental	☐	☐	☐	☐	☐
Macaronesian	☐	☐	☐	☐	☐
Mediterranean	☐	☐	☐	☐	☐
Arctic	☐	☐	☐	☐	☐
Black Sea	☐	☐	☐	☐	☐
Pannonian	☐	☐	☐	☐	☐
Steppic	☐	☐	☐	☐	☐
Anatolian	☐	☐	☐	☐	☐

Vespertilio murinus Linnaeus, 1758

Status of the species occurrence
☑ Resident

General comments

Comments

Add specific comments, if required
› Predominantly western north-western, recently more observations are made
Trend data on Vespertilio murinus are not available. The number of observations of the species are currently growing as a result of using automated real time recorders e.g. in the car transect monitoring (NEM VTT) or in studies related to wind turbine planning. The car transect monitoring system (NEM VTT) is, however, not specifically targeting the parti-coloured bat, and the relatively low number of observations does not allow for trend analysis. It is not clear whether the increase of observations is a result of the enhanced observation probability due to the application of new observation techniques, or of a positive population trend.

Overall national trend
☑ Indeterminate

Status in the National Red List (when it exists)
☑ NT, Near Threatened

Year of assessment

› 2006

Has the status been reported under the Article 17 of the Habitat Directive or for the Emerald network (non-EU countries)?
☑ Yes

Year of report
› 2013

Conservation status per biogeographical region

FV = favourable; U1 = unfavourable-inadequate; U2 = unfavourable-bad); XX = unknown.
NO = doesn't occur in the region

	FV	U1	U2	XX	NO
Alpine	☐	☐	☐	☐	☐
Atlantic	☐	☐	☑	☐	☐
Boreal	☐	☐	☐	☐	☐
Continental	☐	☐	☐	☐	☐
Macaronesian	☐	☐	☐	☐	☐
Mediterranean	☐	☐	☐	☐	☐
Arctic	☐	☐	☐	☐	☐
Black Sea	☐	☐	☐	☐	☐
Pannonian	☐	☐	☐	☐	☐
Steppic	☐	☐	☐	☐	☐
Anatolian	☐	☐	☐	☐	☐

C. Measures taken to implement Article III of the Agreement

Does the national legislation protect all bat species?
☑ Yes

Please, give details of the legislation which is protecting bats
› All bat species are strictly protected under the Nature Conservation Act which replaced the Flora and Fauna Act on 1 January 2017. This Act implements both the EU Birds Directive and the EU Habitats Directive. The Nature Conservation Act regulates the new obligation for the provinces to be responsible for the conservation of nature, including species protection.
Seven native bat species, (Rhinolophus ferrumequinum, Rhinolophus hipposideros, Barbastella barbastellus, Myotis bechsteinii, Myotis dasycneme, Myotis emarginatus and Myotis myotis), are listed in Annex II to the Habitats Directive, and their conservation requires the designation of Special Areas of Conservation (SACs).
27 sites under the HabitatsDirective are designated also for bat species Myotis dasycneme, Myotis emarginatus and Myotis myotis.
No SACs have been selected for Myotis bechsteinii, due to a lack of data on the occurrence and distribution of the species, at the date of first selection of SAC sites.
No SACs were selected for both Rhinolophus species and for Barbastella barbastellus as they are extinct in the Netherlands.
The greater and lesser horseshoe bat are extinct, the Barbastelle is recently rediscovered at one location. Designation of SAC’s for these species is currently not relevant. There is ample evidence, however, that the occurrence of the Bechstein’s bat, is being underestimated, especially in the east and south-east parts of the country. Targeted survey to prepare designation of relevant areas is needed.

Which species are not protected and why?
› None

Comments
› All species are protected.

1. Guidelines for the issue of permits for the capture and study of captured wild bats

Does the system of permits or licenses for the capture of bats exist in your country?
☑ Yes

Comments (optional)
› The capture and study of captured wild bats falls under the Nature Conservation Act, which forbids the capture of any wild animals. To capture bats, an exemption must be requested by the researcher. Such an exemption requires a full research protocol and should be applied for at the Provincial Authority.
The Dutch Mammal Society is in the possession of such an exemption for the catching and handling of bats. Researchers and members that want to make use of the catch and handle exemption of the Dutch Mammal Society are required to comply to guidelines formulated by the Dutch Mammal Society.

System of permits or licences to keep bats for educational or animal welfare purposes
☑ In place

Comments
› Keeping bats for animal welfare or educational purposes is covered by the prohibitions of the Dutch Nature Conservation Act. To keep bats, an exemption must be applied for at the Provincial Authority. Dutch legislation is very strict and exemptions are generally not granted.

System of permits or licences for sampling, ringing, killing of bats for scientific studies
☑ Exists

Comments (optional)
› Bat sampling, ringing and killing for scientific purposes fall under the prohibitions of the Nature Conservation Act. Applications for such an exemptions require a full research protocol and can be applied for at the Provincial Authority.
Invasive research (f.e. taking wing or blood samples) falls under the national legislation on scientific use of animals (Experiments on Animals Act) and requires specific permits and licences.

2.Identified and protected sites which are important to the conservation of bats

Click "expand" to see the questions!

Resolution 5.7. Guidelines for the protection of overground roosts, with particular reference to roosts in buildings of cultural heritage importance

2.4. List of national important overground roosts (including legal/physical protection status)
☑ Exists

Please, give details or links
› All or most of the roosts are monitored annually. There is a development to incorporate this effort into the National Ecological Monitoring (NEM) programme. All roosts of Myotis emarginatus are annually monitored within the NEM programme targeting attics. All or most of the roosts of Plecotus austriacus are annually monitored within the NEM programme targeting attics. A sample of attics are monitored annually, and a larger sample are surveyed at irregular intervals. All NEM programmes for bats are done with the help of trained and skilled volunteer bat workers and coordinated by the Dutch Mammal Society.
There is no complete overview for all bat species.
In 2012 a list of overground roosts was created for Myotis dasycneme (Haarsma, A-J., 2012. De meervleermuis in Nederland. Zoogdiervereniging, Nijmegen).

2.5. National guidelines for custodians of historical buildings on the protection of bat roosts have been developed
☑ Yes

Please attach a file or or provide a link
› There are guidelines for fortifications. Projects to develop guidelines for other types of historical buildings are ongoing.

You have attached the following documents to this answer.

Bat_habitats_along_the_Nieuwe_Hollandse_Waterlinie_summary.pdf - guidelines for fortifications

Comments
› The Eurobats guidelines were distributed among bat workers and stakeholders.
National guidelines for custodians and (commercial) users of old fortifications – the New Dutch Water Defence Line - were developed in 2007.

2.6. Summary report on interactions between the relevant cultural and natural heritage agencies (attach a file or provide a description)
› The nursery colonies of Myotis emarginatus in the monastery Lilbosch and the former nunnery in the village Maria-Hoop have been designated as Natura 2000 sites. In 2013 a study on the animals was commissioned by the Province of Limburg when numbers decreased dramatically.
Special attention is given to the smaller elements, the smaller bunkers and shelters in the landscape of the New Dutch Water Defensce Line. A group of volunteers functions as “fortress-guards”, managing and counting smaller elements that can function as hibernacula.
The Dutch Mammal Society initiated an assessment of species and functions and mitigation advice for a number of high value locations (Haarzuilens, Jachtslot, some ancient fortresses).

Comments
› No comments

Other activities carried out under this resolution (optional)
› No other activities

Resolution 7.6. Guidelines for the protection and management of important underground habitats for bats

Updated counts of bats at each listed site are submitted to the Secretariat
☑ No

2.1. List of important underground sites

2.1. List of important underground sites for bats and measures of their protection (including Natura 2000, Emerald or other status) was submitted to EUROBATS
☑ Yes

When the latest update was submitted?
› The identification of the important underground habitats, as required in Resolution 2.4, was carried out by the Ministry of Agriculture, Nature and Food Quality (former Ministry of Economic Affairs) and the Dutch Mammal Society, and has been submitted to the EUROBATS Secretariat in autumn 2010.

Comments
› The Netherlands has no natural underground habitats for bats but has numerous artificial ones, like limestone quarries, (semi-) subterraneous bunkers, ancient (semi-) subterraneous fortresses, ice houses, cellars etc. which are serving as underground roosts for bats, mainly being winter roosts. Records of bats in all known underground habitats are available in a central database. Inhabitancy of such underground sites in the summer is relatively rare. Maternity sites of Plecotus auritus in the colder parts of such sites are known from a few sites with a high feeding potential. Maternity sites from Myotis daubentonii and Plecotus auritus are known from microsites with relatively high temperatures, such as chimneys above the ground cover of fortresses.
Due to safety regulations under the Mining Act, many limestone quarries can no longer be entered for the annual hibernating bat census, causing the end of in most cases 80 years long data series for the specific sites.

2.2. Management of important underground sites for bats is in accordance with EUROBATS Publication n°2
☑ No

Provide explanations
› All underground habitats are protected by Dutch legislation and are, where appropriate, physically protected against unauthorized entry. Key (artificial) underground hibernacula have received a Natura 2000 status.
For the old fortifications of the New Dutch Water Defence Line guidelines were developed on how to combine the responsibility from nature legislation and cultural heritage, with the ambition to develop and commercially use the sites, which is seen as a condition for durable maintenance of the sites. Specialized professional bat workers consult and supervise these processes.
A management plan for the Limestone quarries aiming at conservation of natural and cultural values in relation to the different – existing and wanted - claims for use of the individual sites is being prepared.

Comments
› No comments

2.3. Other relevant activities for the protection of underground habitats
› Research together with or commissioned by the State Forest Service to improve management and conservation in fortifications.

You have attached the following Web links/URLs to this answer.

Research commissioned by the State Forest Service
Research bats in fortresses

3.Consideration given to habitats which are important to bats

Click "expand" to see the questions!

Resolution 7.7. Bat conservation and sustainable forest management

National guidance has been developed based on the principles in the EUROBATS Bats and Forestry leaflet
☑ No

Examples of best practice for forest management are submitted to the Secretariat
☑ No

If no, provide explanations or give links to available examples
› The guidelines have not been formally implemented in the Netherlands.
Booklet 'Vleermuizen, bomen en bos', 2004, (Bats, trees and forest) is available on the EUROBATS website (http://www.eurobats.org/publications/other_available_publications).
A code of conduct for logging was agreed, and is actively promoted by the State Forestry Service and the Ministry of Agriculture, Nature and Food Quality to save hollow trees as much as possible and to identify roosts of tree dwelling bats prior to the logging of trees.
Since, about 1986, there are numerous cases where occurrence and distribution of bats and bat habitats in forests were addressed. The knowledge derived from these studies as well as literature from colleagues abroad and the EUROBATS bats and forests leaflet, has led to (the development of) leaflets, meetings and training courses – all in Dutch - directed at the theme of 'bats & forest/forest management'. There is, however, no overall approach or guidelines for the whole of the country.

Research in forest management that is sustainable for bats (attach file or provide links)
› Forest management causing problems for bats in forests has not yet been identified. Measures are not fully taken to identify key elements and key areas for bats in forests. There are no incentive schemes in use to provide resources for bat conservation measures in forests.
D Russo, G Billington, F Bontadina, J Dekker, M Dietz, S Gazaryan, G Jones, A Meschede, H Rebelo, G Reiter, I Ruczyński, L Tillon & P Twisk, 2016. Identifying Key Research Objectives to Make European Forests Greener for Bats. Frontiers in Ecology and Evolution 2 July 2016. http://dx.doi.org/10.3389/fevo.2016.0008

Other activities carried out under this resolution (optional)
› Site management organisations like the State Forrestry Commission (Staatsbosbeheer) or municipalities with larger woodlands, have protocols to avoid harming bats in trees during wood harvesting.The Dutch Mammal Society and other organizations arrange workshops and courses in bat/animal friendly tree lane management.

Resolution 7.8. Conservation and management of critical feeding areas, core areas around colonies and commuting routes

Awareness of the importance of critical feeding areas, core areas around known colonies and commuting routes for bats exists
☑ Yes

Give details of activities devoted to raising awareness
› In 2013-2017, the Dutch Mammal Society continued to offer a diversity of seminars for authorities and consultants (survey methods, effective quick scans and survey work in planning and development, conservation of tree lanes and forests, planning & development in relation to old fortresses and historic estates, impact of artificial light and bat friendly solutions) to improve and involve bat conservation in site management and development & planning processes.

Measures to take bats into account in land use and planning decisions
☑ Yes

Measures, if yes

Describe these measures, please
› The Dutch Nature Conservation Act- includes the protection of essential feeding areas and flight paths, within the bat colonies' network of roosts. The Natura 2000 sites, habitat protection for Myotis dasycneme in their summer landscape, are feeding areas. Mitigation and compensation measures have to be taken when land use activities and planning decisions may deteriorate essential feeding areas and flight paths.

Research and monitoring to improve understanding of the use of landscape by bats are ongoing
☑ Yes

research, if yes

Please, specify or give referencies to studies

› Research of understanding the use of a specific landscape by bats is done when spatial plans are made or before construction works are carried out.
The Netwerk Groene Bureaus (Network of ecological consultancies) and the Dutch Mammal Society have developed a protocol for best practice assessment of species, landscape functions and effects. This protocol is updated annually, and is implemented in the vast majority of development and planning projects. Recently it has become clear that for large area's the protocol might not be suited. Netwerk Groene Bureaus and the Dutch Mammal Society are currently discussing with licensing authorities how to set up a new protocol.
The licencing authority in cooperation with experts from consultancies and Dutch Mammal Society have developed best practice guidelines for impact assessment and mitigation for a number of species (e.g. Pipistrellus pipistrellus, P. nathusii, Nyctalus noctula, Myotis daubentonii, Plecotus auritus).
An indicator of effects on bats (and other strictly protected species) of a variety of possible developments in the landscape is developed in cooperation with species experts, and made publically available via internet https://www.bij12.nl/onderwerpen/natuur-en-landschap/kennisdocumenten-soorten-ontheffingen-wet-natuurbescherming/

National guidelines, drawing on the general guidance published in EUROBATS Publication have been developed

☑ Yes

You have attached the following Web links/URLs to this answer.

protocol for best practice assessment of species, landscape functions and effects

Other activities carried out under this resolution (optional)

› No other activities

4. Activities to promote the awareness of the importance of conservation of bats

Click "expand" to see the questions!

4.1. International Bat Night. Give details for each year: number of events and number of people participated

› For many years The European Bat Night in the Netherlands was organised by the Netherlands Bat Group of the Dutch Mammal Society in co-operation with local working groups (IVN, KNNV) and several other nature management organisations (Staatsbosbeheer, Natuurmonumenten en de Provinciale landschappen).
In 2017 Public walks and children's activities were organised in almost 80 locations.

You have attached the following Web links/URLs to this answer.

European Bat Night fort Vechten
European Bat Night

4.2. Details of other important activities which are worth to mention (educational centres, etc.)

› - The symposium "Bats in the City" is organized for the eighth time in 2018 by the Municipality of Tilburg and the Dutch Mammal Society.
- 2017 was declared the year of the bat Eptesicus serotinus by Dutch Mammal Society: several news articles for the general public were published, a brochure was published for the general public to recognize Eptesicus serotinus (among other species) in flight and a expert meeting was organized with emphasize on current state of knowledge, gaps in knowledges and urgent research topics for conservation of Eptesicus serotinus- The Dutch Mammal Society published several brochures on their website: bats and artificial light
- A website on bat boxes was launched in 2016. This can be considered a follow-up of the international bat box conference which was organised by the Netherlands Bat Group and BatLife Europe in Utrecht 2012.The website targets the collection of data on types of boxes used, and monitoring results on the use of these boxes as alternative bat roosts.
- Nature management organisations, such as the State Forest Service, organise activities to promote the awareness of the importance of conservation of bats.

You have attached the following Web links/URLs to this answer.

Kids and bats
Bats in fortresses (Nieuwe Hollandse Waterlinie)
Bat boxes
Brochures
Bats in the City

4.3. Information on training and awareness raising for forest managers and workers, farmers, road workers, stakeholders involved in insulation of buildings, etc.

› In 2004-2017, the Dutch Mammal Society continued to offer a diversity of seminars for authorities and consultants like: survey methods, effective quick scans and survey work in planning and development, conservation of tree lanes and forests, planning & development in relation to old fortresses and historic estates, impact of artificial light and bat friendly solutions. The overall aim is to improve and involve bat conservation in site management and development & planning processes.
Commercial companies are starting to offer similar workshops or seminars.

Resolution 4.11. Recognising the important role of NGOs in bat conservation

4.4. Details of NGOs participating in /contributing to bat protection and most valuable activities that have the potential to substantially improve transboundary cooperation and mutual assistance

› The expertise and activities of the Dutch Mammal Society represent a substantial contribution to the successful implementation of the Eurobats Agreement. The Society collaborates and shares experiences in the Scientific Advisory Committee and in BatLife Europe to improve transboundary co-operation and exchange of information as well as mutual assistance. The Dutch Mammal Society is one of the founders of BatLife Europe. The VLEN, short for 'Vleermuiswerkgroep Nederland' (Bat workgroup Netherlands) is a workgroup under the Dutch Mammal society/Zoogdiervereniging. In many provinces regional mammal or bat workgroups targeting bats are established, some of which are independent while others are working groups within the Dutch Mammal Society. There are also regional or local bat groups as part of regionally of locally organised NGO's for Nature conservations such as the Royal Netherlands Natural-History Society (KNNV). All working groups cooperate under the umbrella or the VLEN/Zoogdiervereniging.

You have attached the following documents to this answer.

regional_mammal_or_bat_workgroups.docx - regional mammal or bat workgroups

5. Additional actions undertaken to safeguard populations of bats

Click "expand" to see the questions!

Resolution 2.2. Consistent monitoring methodologies

5.1. Implementation of EUROBATS guidelines published in EUROBATS Publication n°5 to ensure consistency and information exchange between Parties and Range States
☑ Yes

Please give details
› All EU member states determine the conservation status of bats in a similar way specified by the Habitats Directive and report it every six year to the European Commission.
Many data are gathered in the course of compulsory surveys in the process of planning and development (implementation of the EC Habitats Directive in national legislation). Most (national) authorities require consultants to add data to the national database. Nonetheless in the case of smaller projects and private developers, this has not yet become an automatism and data remain in the grey literature or in unpublished impact assessments.
Counts in hibernacula are another major source of data. The monitoring of hibernating bats in these roosts is done in the framework of the national nature monitoring programme, the Network Ecological Monitoring (NEM), financed by the Ministry of Agriculture, Nature and Food Quality. The counts are done by volunteers. The scheme is co-ordinated by the Dutch Mammal Society. Statistics Netherlands (CBS) calculates trends and indexes and oversees quality of the data.
Every winter period, bats are monitored in 800 – 900 hibernacula across the country. The main hibernacula are limestone quarries, 19th century fortresses, World War II bunkers, and ice houses. Data gathering of hibernacula was standardised in 1986. The scheme generates reliable trend data for M. mystacinus/brandtii, M. nattereri, M. emarginatus, M. myotis, M. daubentonii, M. dasycneme, and Plecotus auritus/austriacus. For M. bechsteinii the observed numbers are too low to allow trend analysis.
The NEM program ‘’attic counts’’ is targeting attics and delivers trend data on the attic dwelling species Myotis emarginatus and Plecotus austriacus. In future attic and other roost counts (e.g. emergence counts) for M. dasycneme will be incorporated in this program. The ‘attic counts’ additionally generate on occurrence for M. mystacinus, Pl. auritus, Pipistrellus pipistrellus and Eptesicus serotinus. For E. serotinus the possibility to incorporate the species in this program via attic and emergence counts is being explored.
Another NEM monitoring scheme, based on transects driven with cars and auto- recording detectors, and targeting Pipistrellus pipistrellus, P. nathusii, Nyctalus noctula and Eptesicus serotinus, has been successfully tested in 2012/2013, and is being implemented since 2013. From 2013 an increasing number of transects is being established, up to 90 in 2018. Besides the targeted species for monitoring the approach generates a by-catch in the form of data on occurrence on a range of other species: open air hunters such as Nyctalus leisleri, Vespertilio murinus, P. pygmaeus, but also though much rarer on species from the cluttered environment such as, Myotis daubentonii, M. dasycneme, M. nattereri and Plecotus auritus/austriacus.
In 2013, the Dutch Mammal Society has started a new initiative, called ‘’Hopping Detectors’’, where automatic ultrasound recorders are used in gardens of the general public for 2 or 3 nights in a row in a single garden. After these 2 or 3 nights, the citizen forwards the recorder to someone in his network for the next recording session. This always leads to interested dialog regarding bats. Data are analysed through volunteer groups, as well as computer aided identification software. Even extremely rare species are being recorded through this nightlong intensive sample of one site. This is a good example of citizen science, where citizen’s efforts lead to data of scientific value and public awareness.

Resolution 5.4. Monitoring bats across Europe

5.11. Involvement in a long-term pan-European surveillance to provide trend data
☑ Yes

Involvement details

Please, give details of involvement
› The Dutch Mammal Society and Statistics Netherlands were leading partners in the European Environment Agency commissioned project “A pan-European bat indicator” (Haysom et al. 2014), for which the Ministry of Agriculture, Nature and Food Quality provided the data from the Network Ecological Monitoring.
All programs in the national network ecological monitoring (hibernation counts, attics + emergence counts, and car transect counts) use which allow methods comparison with data from networks in other Eurobats-countries.
A monitoring program focussing on the urban landscape is being developed.
- Hommersen, V.J.A., E.A., Jansen, H.J.G.A. Limpens & M.J. Schillemans. 2017. Pilot vleerMUS - Meetnet Urbane Soorten voor vleermuizen, Utrecht 2016. Rapport 2016.059. Bureau van de Zoogdiervereniging, Nijmegen.
- Limpens, H.J.G.A., E.A. Jansen, L. Höcker & M. Schillemans, 2016. Monitoring of Bats in an Urban Landscape - A monitoring system for bats in urban landscapes in the framework of the assessment of their conservation

status (FCS). Rapport 2015.023. Bureau van de Zoogdiervereniging, Nijmegen.

Awareness-raising of the importance of underground sites
☑ Yes

Collaboration and information exchange with other Parties and range states on surveillance and monitoring activities
☑ Yes

Please provide details
› Public and professional awareness is being raised through, papers, presentations, courses and websites, development of guidelines for development of fortresses and landscape of the New Dutch Water Defence Line, development of a management plan for limestone quarries. In protocols and guidelines for planning and development the phenomenon ‘underground site’ is flagged as potential bat habitat.
Collaboration and information exchange with other Parties and range states on surveillance and monitoring activities created a prototype pan-European bat indicator.

5.14. Monitoring bats in accordance with EUROBATS Publication n°5
☑ Yes

5.15. Capacity building of bat workers and surveyors to support the undertaking of bat surveillance projects
☑ Exists

Other activities under Resolution 5.4.
› No other activities

Resolution 6.6. Guidelines for the prevention, detection and control of lethal fungal infections in bats

5.17. Surveillance for the presence of fungal infections
☑ Yes

Please provide details
› Within the framework of the national hibernacula census from the Network Ecological Monitoring, the Dutch Mammal Society has urged surveyors of hibernacula to be vigilant for lethal fungal infections in bats, and provided a protocol on how to deal with instances of infected animals.

Resolution 6.13. Bats as indicators for biodiversity

5.19. Does your country support a development of national, regional and pan-European biodiversity indicators for appropriate target audiences, using bat data
☑ Yes

Please provide details
› The monitoring of bats is done in the framework of the national nature monitoring programme, the Network Ecological Monitoring (NEM) financed by the Ministry of Agriculture, Nature and Food Quality, Rijkswaterstaat and the Provinces. The NEM data are used for different biodiversity indicators published in the Environmental Data Compendium, Environmental Assessment and national reports for international conventions.

You have attached the following Web links/URLs to this answer.

example of an indicator
biodiversity indicators

5.20. Bat data is incorporated within high profile national multi-taxa indicators
☑ Yes

Body in charge for gathering the data for these indicators
› The Network Ecological Monitoring (NEM) is a cooperation of government organizations for the monitoring of nature in the Netherlands. The partners set priorities for the measurement goals and work on optimizing the collection and processing of the data.
The partners in the NEM are:
• Ministry of Agriculture, Nature and Food Quality
• Rijkswaterstaat
• Netherlands Environmental Assessment Agency (PBL)
• Statistics Netherlands (CBS)

• Provinces

5.22. Cooperation platforms that facilitate the required data exchange
☑ Exist

Please specify or give links
› Data on the distribution of bats are collected by national and regional natural history organisations, the Dutch Mammal Society as well as by nature site management organizations (such as Natuurmonumenten, State Forestry Service) and are entered into compatible databases. There are two internet portals for the entry of wildlife records: www.telmee.nl and www.waarneming.nl. After the data are gathered and validated, data management and exchange is done through several platforms:
- Distribution data: The Dutch National Database Flora and Fauna (NDFF)
- Trend data: NEM
- Indicators: Environmental Data Compendium

You have attached the following Web links/URLs to this answer.

Distribution data
Trend data (NEM)
Environmental Data Compendium

Other activities carried out under this resolution (optional)
› No other activities

Comments (optional)
› No comments

Resolution 7.5. Wind turbines and bat populations

5.2. Raising awareness on the impact of turbines on bats and the existence of some unsuitable habitats or sites for construction
☑ Yes

If yes, how?
› The use of the protocols and national guidelines for working with bats in the course of development and planning of wind energy plants will be actively stimulated by the government, wind energy developers and the Dutch Mammal Society.

5.3. Pre-construction impact assessments, if possible, undertaken by suitably experienced bat experts
☑ Yes

Please, give details
› Surveys, assessments and monitoring have to be conducted by skilled and experienced ecologists. However, it does not have to be a bat expert.

5.4. National guidelines were developed following Eurobats Pub. No. 6
☑ Yes

Please, attach a file or or provide a link

You have attached the following Web links/URLs to this answer.

Protocols bat research at wind turbines

National guidelines are implemented
☑ Partially

Please, provide implementation details
› The legal obligation to assess the presence of strictly protected species, their habitats and potential impact of a development (such as planning of roads, lighting, wind turbines) on species and habitats is in place. This does not automatically mean that every project complies with this obligation.
A number of potential guidance’s
- The general protocol on required (field) research on bats in relation to developments,
- EUROBATS guidelines on bats and wind energy,
- Dutch guidelines on how to assess fatality risk and determine curtailment periods, based on acoustic activity, in relation to fatality searches and weather parameters are actively distributed, and addressed in courses for consultants and authorities. Again, this does not automatically mean that every project complies with the guidance. In general, however, the focus of licencing authorities as well as the industry (wind energy

developer, consultancy firms) on this topic is growing.
The protocol has been ratified by the Ministry of Agriculture, Nature and Food Quality (former Ministry of Economic Affairs).

5.5. Investigations and research for mitigating bat mortality have been undertaken

☑ Yes

Please, list references, attach reports and articles

› References: Ralph Buij, Alex Schotman, Ben Verboom. (red), in press. Kwetsbare soorten voor energie-infrastructuur in Nederland: Overzicht van effecten, mitigatie en ruimtelijke planning voor een natuur-inclusieve energietransitie. Wageningen Environmental Research, Wageningen.

5.6. Additional information on research on the impact of wind turbines on bat populations

List new references, attach reports or articles

› References:

- Boonman, M., D. Beuker, M. Japink, K.D. van Straalen, M. van der Valk & R.G. Verbeek, 2011. Vleermuizen bij windpark Sabinapolder in 2010. BW-rapportnr. 10-247. Bureau Waardenburg bv, Culemborg.
- Boonman, M., M. Japink, D.E.H. Wansink. 2015. Vleermuizen in de Eemshaven. Voorkomen en slachtofferrisico van vleermuizen in toekomstige windparken. Rapport nummer 14-271 Bureau Waardenburg, Culemborg.
- Dirksen, S., 2017. Review of methods and techniques for field validation of collision rates and avoidance amongst birds and bats at offshore wind turbines - final report Phase 1, report no. SjDE 17-01 i/o Rijkswaterstaat WVL.
- E Klop, J Dekker, E van der Zee & A Rippen, 2017. Monitoring vleermuizen en overige natuurwaarden Windpark Noordoostpolder. Zomer 2017. A&W-rapport 2421. Altenburg & Wymenga ecologisch onderzoek, Feanwâlden.
- Lagerveld, S., H.J.G.A. Limpens, M.J. Schillemans & M. Scholl 2017. Bat 1: Estimate of bat populations at the southern North Sea. Supporting note to ZDV report no. 2016.031 Migrating bats at the southern North Sea. Wageningen, Wageningen Marine Research (University & Research Centre), Wageningen Marine Research report no. C014.17/Dutch Mammal Society report no. 2017.08. 14 pp.
- Limpens, H.J.G.A., M. Boonman S.J. Vreugdenhil & S. Dirksen. 2014. Windturbines en vleermuizen – Naar een voorspellingsmodel voor slachtoffers. – TOETS Jaargang 21(2): 22-26.
- Limpens, H.J.G.A., S. Lagerveld, I. Ahlén, D. Anxionnat, T. Aughney, H.J. Baagøe, L. Bach, P. Bach, J. Boshamer, K. Boughey, T. Le Campion, M. Christensen, J.J.A. Dekker, T. Douma, M.-J. Dubourg-Savage, J. Durinck, M. Elmeros, A.-J. Haarsma, J. Haddow, D. Hargreaves, J. Hurst, E.A. Jansen, T.W. Johansen, J. de Jong, D. Jouan, J. van der Kooij, E.-M. Kyheroinen, F. Mathews, T.C. Michaelsen, J.D. Møller, G. Pētersons, N. Roche, L. Rodrigues , J. Russ, Q. Smits , S. Swift, E.T. Fjederholt, P. Twisk, B. Vandendriesche & M.J. Schillemans, 2017. Migrating bats on the southern North sea - Approach to an estimation of migration populations of bats on southern North Sea . Rapport 2016.031. Wageningen Marine Research / Bureau van de Zoogdiervereniging, Nijmegen.
- Sander Lagerveld, Bob Jonge Poerink, Pepijn de Vries & Michaela Scholl, 2016. Bat activity at offshore wind farms LUD and PAWP in 2015. Report number C001/16. IMARES - Institute for Marine Resources & Ecosystem Studies.
- Sander Lagerveld, René Janssen, Jasper Manshanden, Anne-Jifke Haarsma, Simon de Vries, Robin Brabant & Michaela Scholl, 2017. Telemetry for migratory bats – a feasibility study; Wageningen, Wageningen Marine Research (University & Research Centre), Wageningen Marine Research report C011/17. 47 pp.
- Sander Lagerveld, Gert Kooistra, Gerwoud Otten, Lydia Meesters, Jasper Manshanden, Dick de Haan, Daan Gerla, Hans Verhoef & Michaela Scholl , 2017. Bat flight analysis around wind turbines – a feasibility study; Wageningen, Wageningen Marine Research (University & Research Centre), Wageningen Marine Research report C026/17. 40 p.
- Limpens, H.J.G.A., 2017. Beantwoording aanvullende vragen effectenbeoordeling ontwikkeling windturbines greenpark Venlo op vleermuizen. Notitie van de Zoogdiervereniging N2017025 in opdracht van Arcadis B.V.
- Limpens, H.J.G.A., E.A. Jansen & M.J. Schillemans, 2017. Voorspelling potentiële vleermuisslachtoffers windturbines Greenpark Venlo. Rapport in opdracht van Arcadis Nederland BV. Rapport 2017.20 Bureau van de Zoogdiervereniging, Nijmegen.
- Limpens, H.J.G.A., M. Boonman S.J. Vreugdenhil & S. Dirksen. 2014. Windturbines en vleermuizen – Naar een voorspellingsmodel voor slachtoffers. – TOETS Jaargang 21(2): 22-26.

You have attached the following Web links/URLs to this answer.

bats and offshore wind farms

5.7. Post-construction monitoring, if possible, is undertaken by suitably experienced bat experts

If yes, give details

☑ Yes

› However post-construction monitoring is only carried out occasionally.

5.8. Raw data from environmental impact assessment and post-construction monitoring is available for independent scientific analysis
☑ No

5.9. Blade feathering, higher cut-in wind speeds and shutting down turbines are used to reduce or avoid bat mortality
☑ Yes

Please, provide details
› Mitigation measures prescribed in the Netherlands:
- change location of turbines (prior to construction) when a high amount of bat fatalities is expected.
- curtailment: shut down turbines in periods with the highest risk of bat fatalities (at low wind speed at night) for example by increasing the cut-in speed.
- development of alternative foraging area, away from the wind farm.

Other activities carried out under Resolution 7.5 (optional)
› No other activities

Comments (optional)
› No comments

Resolution 7.9. Impact of roads and other traffic infrastructures on bats

5.23. Bats are taken into account during the planning, construction and operation of roads and other infrastructure projects
☑ Yes

Please give details or attach a file with description
› The planning, construction and operation of roads and other infrastructure projects requires an exemption as set in the Nature Conservation Act. The Nature Conservation Act protects species against human activities which can have a negative impact on the conservation status of species.

5.24 Pre-construction strategic and environmental impacts assessment procedures are mandatory
☑ Are mandatory

5.25. Post-construction monitoring
☑ Required occasionally

5.26. Raw data from environmental impact assessment and post-construction monitoring is available for independent scientific analysis
☑ No

5.27. Research into the impact of new and, where appropriate, existing roads and other infrastructure on bats and into the effectiveness of mitigation measures
☑ Yes

Please list references, attach documents or provide links
› Safe Bat Paths is a project commissioned by the Conference of European Directors of Roads. The project about the effectivity of mitigation measures is conducted by a consortium: Aarhus University, University of the Basque Country, Flagermus Forskning og Rådgivning, Swego & Jasja Dekker
http://bios.au.dk/om-instituttet/organisation/faunaoekologi/projekter/safe-bat-paths/
Publications (PDF on project site):
- Elmeros, M & JJA Dekker, 2016. Fumbling in the dark – effectiveness of bat mitigation measures on roads – Final report. Conference of European Directors of Roads, Brussel.
- Elmeros, M, JJA Dekker, HJ Baagøe, I Garin, M Christensen, 2016. Fumbling in the dark – effectiveness of bat mitigation measures on roads. Bat mitigation on roads in Europe – an overview. Conference of European Directors of Roads, Brussel.
- Dahl Møller, J, JJA Dekker, HJ Baagøe, I Garin, A Alberdi, M Christensen & M Elmeros, 2016. Fumbling in the dark – effectiveness of bat mitigation measures on roads. Effectiveness of mitigating measures for bats – a review. Conference of European Directors of Roads, Brussel.
- Elmeros, M, J. Dahl Møller, JJA Dekker, I Garin, M Christensen, HJ Baagøe, 2016. Fumbling in the dark – effectiveness of bat mitigation measures on roads. Bat mitigation measures on roads – a guideline. Conference of European Directors of Roads, Brussel.
- Dekker, A Berthinussen, E Ransmayr, F Bontadina, F Marnell, G Apoznański, J Matthews, JD Altringham, ML Ujvári, S-J Phelan, S Roué, T Kokurewicz, U Hüttmeir, V Loehr, V Reiss-Enz, ET Fjederholt, HJ Baagøe, I Garin,J

Dahl Møller, L Dalby, M Christensen & M Elmeros, 2016. Fumbling in the dark – effectiveness of bat mitigation measures on roads. Future research needs for the mitigation of the effects of roads on bats. Conference of European Directors of Roads, Brussel.

You have attached the following Web links/URLs to this answer.

Bats and roads
Safe Bat Paths

5.28. National guidelines are developed
☑ Yes

Please attach the text(s) or give links
› provincial infrastructure II - code of conduct (valid until 03-06-2018):

You have attached the following Web links/URLs to this answer.

Code of conduct

Other activities carried out under Resolution 7.9 (optional)
› No other activities

Comments (optional)
› No comments

Resolution 7.10. Bat Rescue and Rehabilitation

5.29. Animal rescue and rehabilitation systems are effective in the country
☑ Yes

5.30. Collaboration between bat rehabilitators and scientists
☑ Exists

Provide examples of collaboration
› e.g. for virus research

5.31. Bat rehabilitators contribute their data to a national database
☑ Yes

Please provide information about this database
› for example www.waarneming.nl

Other activities carried out under Resolution 7.10 (optional)
› The Netherlands Bat Group of the Dutch Mammal Society gives instruction what to do when someone finds a bat and who to contact when the bat has to be rescued, taken care for and rehabilitated. The work is carried out by volunteers with permission (exemption of the Dutch legislation) to catch, handle and keep bats.
When citizens have 'problems' with bats, e.g. when a roost provides nuisance, the municipalities are responsible for handling the problem within the legal boundaries. In practice only few municipalities implement this responsibility. In some provinces NGO’s are doing this work, with financial aid from some municipalities, in other situations 'pest controllers'' are consulted.

You have attached the following Web links/URLs to this answer.

Instructions when a bat is found

Comments (optional)
› The setup differs between provinces. In every province there are skilled people to advise on entrapped bats etc. Long stay rehabilitation centres are less, up to 5-6.
They used to work under license from the government, but as of start 2017 licensing is done per province

Resolution 7.11. Bats and building insulation

5.32. Are there conflicts between insulation regulations and bat conservation?
☑ Yes

Please provide details
› Important Climate policy is to reduce fuel consumption and CO2 emission by insulation of houses. Insulation is commissioned by private owners or on al larger scale by housing corporations and municipalities. Insulation falls under Dutch legislation, which forbids the disturbance of wild animals and the destruction of breeding

and resting sites. Before insulation is carried out, an ecological expert must determine whether there are bats present. If there are any bats present an exemption must be requested at the Provincial Authority. An exemption requires a full ecological study of effects, and mitigation and compensation measures to minimize impact on bat populations. These ecological studies are frequently lacking in small scale insulation of houses or are sometimes insufficient in large-scale approaches.
Impact of renovation and insulation on known and potential (expert judgement) roosts sites for Myotis dasycneme was studied in the province of Friesland. In 2008 in 11 towns and villages, with known roosts at that time, over 500 ‘known and potential’ roost sites were known. In 2017 35% of these ‘known and potential’ roosts where lost. In two smaller villages with lower numbers of ‘known and potential’ roosts in 2008, no remaining roosts were found in 2017. The numbers of pond bats the roosts that were used were found to decline. Similar data on loss of roosts and declining numbers exist for roosts in the Province of Overijssel.
In the study in Friesland, different potential causes for the decline in numbers, such as changes in diet as indication of possible influence of food availability on survival, quality and/or disturbance of flightpaths and foraging areas, as well as roost availability were analysed. The parameters on diet and quality of the landscape showed no apparent differences for the compared periods, strongly suggesting that roost availability/roost loss is the critical factor.
- Haarsma A-J. &, M. Koopmans 2017. De Meervleermuis in Fryslân. Kennisontwikkeling voor monitoring. A&W-rapport 2418 Altenburg & Wymenga ecologisch onderzoek, Feanwâlden
- Haarsma, A.-J., J. Prescher & B. Noort, 2018. DE MEERVLEERMUIS IN DE WEERIBBEN-WIEDEN - Verslag van een inventarisatie uitgevoerd in de zomer van 2016. Rapport Veldwerkgroep Zoogdiervereniging en Zoogdierenwerkgroep Overijssel.

5.33. Which actions including mitigation and compensation measures were undertaken to address these conflicts?
› A code of conduct ('natuurinclusief renoveren') is developed.

5.34. Impacts on bats are included in the environmental assessment of insulation programs

☑ Yes

Other activities carried out under Resolution 7.11 (optional)
› Partly financed by a budget of the Ministry of Agriculture, Nature and Food Quality for habitat-based approach the city of Utrecht has commissioned the Dutch Mammal Society to create a website on bats in towns www.vleermuizenindestad.nl. This project has led to a working group on ‘bats in towns and villages’ within the working group of urban ecologists of the communities. Since 2010, an annual meeting is organized, in co-operation between this working group and the Dutch Mammal Society, addressing topics regarding bats in urban areas. In 2013 e.g. the topic of insulation of wall cavities was addressed. More resources are needed to be able to update the site more regularly.
Bat roosts could be lost due to the effort to reduce carbon emission, be it through insulation, through demolishing buildings with a low insulation, or through zero-carbon-emission or all-electric building. Modern zero-carbon-emission buildings have less opportunities for bats.. Therefore, in 2016 in the province of Noord-Brabant a program was started targeting nature inclusive building for bats and birds. The provincial authorities as well as private funding facilitate this program in which Vogelbescherming Nederland (Bird Conservation Netherlands) and the Dutch Mammal Society cooperate. In five larger cities in the province of Noord-Brabant workshops on nature inclusive building are organised for project developers, architects and builders. In these sessions their specific current projects are analysed regarding the potential for bats and birds. Working with them stimulates their commitment to taking the required measures. Specific advice for bat and bird boxes that can be integrated in the buildings (the information and the material) and/or customized measures are financial assets that are donated to the participants. The building professionals and the projects become examples that stimulate others to take up nature inclusive building.
In the framework of this program, a Bird Conservation Netherlands website with information on how to build ‘green’ (checklist groen bouwen) is redeveloped together with the Dutch Mammal Society. The new birds and bats version is due in May 2018.)
http://www.checklistgroenbouwen.nl/

Comments (optional)
› No comments

Resolution 7.12. Priority species for autecological studies

Rhinolophus blasii Peters, 1866

Some studies have been conducted (are ongoing) for this species in the country
☑ No

Eptesicus isabellinus (Temminck, 1840)

Some studies have been conducted (are ongoing) for this species in the country
☑ No

Myotis escalerai Cabrera, 1904

Some studies have been conducted (are ongoing) for this species in the country
☑ No

Nyctalus azoreum (Thomas, 1901)

Some studies have been conducted (are ongoing) for this species in the country
☑ No

Nyctalus lasiopterus (Schreber, 1780)

Some studies have been conducted (are ongoing) for this species in the country
☑ No

Pipistrellus hanaki Hulva & Benda, 2004

Some studies have been conducted (are ongoing) for this species in the country
☑ No

Pipistrellus maderensis (Dobson, 1878)

Some studies have been conducted (are ongoing) for this species in the country
☑ No

Plecotus kolombatovici Dulic, 1980

Some studies have been conducted (are ongoing) for this species in the country
☑ No

Plecotus sardus Mucedda, Kiefer, Pidinchedda & Veith, 2002

Some studies have been conducted (are ongoing) for this species in the country
☑ No

Plecotus teneriffae Barrett-Hamilton, 1907

Some studies have been conducted (are ongoing) for this species in the country
☑ No

Other activities carried out under Resolution 7.12 (optional)
› No other activities

Comments (optional)

› No comments

6. Recent and ongoing programmes (including research and policy initiatives) relating to conservation and management of bats

Click "expand" to see the questions!

Resolution 2.3. Transboundary programme: species proposals

6.1. Inclusion of Myotis dasycneme and Pipistrellus nathusii in transboundary cooperation

☑ Yes

Please attach documents

› In the Netherlands wetlands are key feeding habitats for bats, especially for Myotis dasycneme, Myotis daubentonii and Nyctalus noctula. This is also the case with Pipistrellus nathusii, especially for wetlands near older forests or estates. 22 wetlands have been designated as Natura 2000 sites, because of their importance for Myotis dasycneme. Forest sites with older plots and older tree lanes near the migrating routes along the rivers and the coast are important traditional roosting and mating sites for the long range migrating species P. nathusii and N. noctula. Forest along rivers and the coast are mostly part of the European Natura 2000 network.
The previously reported long-term study on the ecology of Pipistrellus nathusii in the Netherlands and its seasonal migration between the Netherlands and Central and Eastern European countries has been finalized.
- Lagerveld, S., H.J.G.A. Limpens, M.J. Schillemans & M. Scholl 2017. Bat 1: Estimate of bat populations at the southern North Sea. Supporting note to ZDV report no. 2016.031 Migrating bats at the southern North Sea. Wageningen, Wageningen Marine Research (University & Research Centre), Wageningen Marine Research report no. C014.17/Dutch Mammal Society report no. 2017.08. 14 pp.
- Limpens, H.J.G.A., S. Lagerveld, I. Ahlén, D. Anxionnat, T. Aughney, H.J. Baagøe, L. Bach, P. Bach, J. Boshamer, K. Boughey, T. Le Campion, M. Christensen, J.J.A. Dekker, T. Douma, M.-J. Dubourg-Savage, J. Durinck, M. Elmeros, A.-J. Haarsma, J. Haddow, D. Hargreaves, J. Hurst, E.A. Jansen, T.W. Johansen, J. de Jong, D. Jouan, J. van der Kooij, E.-M. Kyheroinen, F. Mathews, T.C. Michaelsen, J.D. Møller, G. Pētersons, N. Roche, L. Rodrigues , J. Russ, Q. Smits , S. Swift, E.T. Fjederholt, P. Twisk, B. Vandendriesche & M.J. Schillemans, 2017. Migrating bats on the southern North sea - Approach to an estimation of migration populations of bats on southern North Sea . Rapport 2016.031. Wageningen Marine Research / Bureau van de Zoogdiervereniging, Nijmegen.

Comments (optional)

› No Comments

Resolution 2.4. Transboundary programme: habitat proposals

6.2. National research on underground sites has been undertaken since the last reporting

☑ Yes

Please list references

› The Netherlands has no natural underground habitats for bats but has numerous artificial ones, like limestone quarries, (semi-) subterraneous bunkers, ancient fortresses, ice houses, cellars etc. which are serving as underground roosts for bats, mainly being winter roosts. Every year the known underground sites are monitored. Records of bats in all known underground habitats are available in a central database.
In two limestone quarries the relation between (micro)climate, human disturbance/human use of the quarries and the specific locations of hibernating individuals and species in the quarries was investigated. The information is used to inform conservation, the bandwidth of acceptable human use, as well as possibilities for mitigation and possibly compensation.
- Klasberg, M.W., B. Verboom en H.G.J.A. Limpens, 2016. Beschermingsplan vleermuizen Gemeente- en Fluweelengrot. Arcadis, Zoogdiervereniging en ArcheoPro in opdracht van gemeente Valkenburg.
- Haemers, R., E.A. Jansen, J. Orbons, H.G.J.A Limpens, 2015. Stappen vooruit in het donker - Onderzoek naar het klimaat in het Zonnebergstelsel voor biotoopverbetering voor vleermuizen met behoud van cultuurhistorische waarden. Rapport 2015.19. Bureau van de Zoogdiervereniging, Nijmegen en Souterrains, Eijsden.

6.3. National research on bats in forests

☑ No

Comments (optional)

› No comments

Resolution 5.2. Bat rabies in Europe

6.5. National bat rabies surveillance network
☑ Yes

Please give details
› The passive rabies surveillance of bat rabies is ongoing. From 1986 until January 1st, 2014, 5,249 bats were tested for European Bat Lyssavirus. Active rabies surveillance was mainly carried out on M. dasycneme and M. daubentonii.

6.6. Vaccination against rabies is compulsory
☑ No

6.7. Details of the institution(s) in charge of recording of all test results and their submission to the World Health Organisation
› The RIVM (National Institute for Public Health and Environment) coordinates infectious disease control in the Netherlands on behalf of the Ministry of Health, Welfare and Sport.
The Central Veterinary Institute of the Wageningen University & Research (Lelystad), the National Institute of Public Health (Bilthoven), the Naturalis Biodiversity Center (Leiden), the Erasmus Medical Centre, and the Laboratory of Food Microbiology of the Wageningen University & Research (Wageningen), in cooperation with the Dutch Mammal Society, have running programmes on bat zoonoses. These institutions are represented in the Working Group Bat Zoonoses. A current research program is the program 'Zoonoses in the night'.
Currently only in Dutch: https://www.zonmw.nl/nl/onderzoek-resultaten/gezondheidsbescherming/programmas/project-detail/non-alimentaire-zooenosen/zoonoses-in-the-night/

6.8. Other activities carried out under this resolution (optional)
› Vaccination can be provided to risk groups such as people who frequently work with bats or specific groups of travellers to areas where rabies is common.Vaccination of imported pets is mandatory.

Comments (optional)
› Vaccination against rabies is compulsory for people handling bats. It is a condition of the license.

Resolution 6.5. Guidelines on ethics for research and field work practices

6.9. National Code of Practice that addresses the context and legitimacy of acquisition, due diligence, long-term care, documentation, relevance and institutional aims
☑ Exists

Please give details or provide links
› Some aspects of research fall under Dutch legislation. For the use of such methods for the study of bats, an exemption must be requested by the researcher. Such an exemption requires a full research protocol and can be applied for at the Provincial Authority. Dutch legislation is applied strictly.
The Netwerk Groene Bureaus, network of ecological consultancies and the Dutch Mammal Society have developed a protocol for best practice assessment of species, landscape functions and effects. This protocol is updated annually, and is implemented in the vast majority of development and planning projects.
Invasive research (f.e. taking wing or blood samples) falls under the national legislation on scientific use of animals (Experiments on Animals Act) and requires specific permits and licences.
The Dutch Mammal Society holds a licence as an in company Authority for Animal Welfare in relation to experiments with animals. As with the exemption for capture of bats, bat researchers can use this license, after the research protocol is evaluated by the Authority for Animal Welfare.

6.10. Other activities carried out under this resolution (optional)
› No other activities

Comments (optional)
› No comments

Resolution 6.8. Monitoring of daily and seasonal movements of bats

Please select a species for which a research in daily/seasonal movements has been conducted from the list

Myotis dasycneme (Boie, 1825)

New data on daily movements was obtained
☑ Yes

Please attach a list of references

› see Web link

You have attached the following Web links/URLs to this answer.

Telemetrie Amsterdam

New data on seasonal movements was obtained
☑ Yes

Please attach a list of references
› Expert judgment of migration quality of the landscape of the river Maas from Mook to Maastricht, a major connection between summer en winter habitats. The pondbat and the notched-eared bat were used as indicator species. The quality assessment was combined with potential measures for conservation of existing quality and improvement of landscape where the connective quality is poor:
- Limpens, H.G.J.A, V.J.A. Hommersen, M van Oene E.A. Jansen en M.J. Schillemans, 2016. Van Mook tot Maastricht - integrale landschappelijke aanpak migratielandschap voor vleermuizen van Maas en Julianakanaal. Rapport 2017.18 van de Zoogdiervereniging, Nijmegen, i.o.v. Provincie Limburg, RWS en WL (WRO/WPM).
Pilot on automated registration of movements of bats on waterways, with focus on pond bat.
- Schillemans, M.J., R. Koelman, E.A. Jansen & H.J.G.A. Limpens, 2015. Pilot voor nieuwe onderzoeksmethode voor gebruik waterwegen door vleermuizen in Noord-Holland. 2014.023. Bureau van de Zoogdiervereniging, Nijmegen.

Myotis emarginatus (Geoffroy, 1806)

New data on daily movements was obtained
☑ Yes

Please attach a list of references
› - Janssen, R, J Dekker, T Molenaar & J Regelink, 2014. Ingekorven vleermuis in Midden-Limburg. Populatieontwikking van de ingekorven vleermuis in Midden-Limburg in 2012 en de uitgevoerde acties. Bionet (Stein)/ Jasja Dekker Dierecologie(Arnhem)/ Regelink Ecologie&Landschap (Mheer). 15 pag.
- Schillemans, M.J., R. Janssen, J. Lommen, H.J.G.A. Limpens & A. Guldemond, 2017. Boer zoekt ingekorven vleermuis. - Zoogdier 28(2):25-26.
- Schillemans, M.J., J.L. Lommen, J.A. Guldemond, R. Janssen & H.J.G.A. Limpens, 2016. Boer zoekt ingekorven vleermuis - Toekomstperspectief voor de ingekorven vleermuis in Midden-Limburg. Rapport 2016.001. Bureau van de Zoogdiervereniging / CLM Onderzoek en Advies, Nijmegen / Culemborg. 87pp + 9 bijlagen.

New data on seasonal movements was obtained
☑ Yes

Please attach a list of references
› Expert judgment of migration quality of the landscape of the river Maas from Mook to Maastricht, a major connection between summer en winter habitats. The pondbat and the notched-eared bat were used as indicator species. The quality assessment was combined with potential measures for conservation of existing quality and improvement of landscape where the connective quality is poor:
- Limpens, H.G.J.A, V.J.A. Hommersen, M van Oene E.A. Jansen en M.J. Schillemans, 2016. Van Mook tot Maastricht - integrale landschappelijke aanpak migratielandschap voor vleermuizen van Maas en Julianakanaal. Rapport 2017.18 van de Zoogdiervereniging, Nijmegen, i.o.v. Provincie Limburg, RWS en WL (WRO/WPM).

Plecotus auritus (Linnaeus, 1758)

New data on daily movements was obtained
☑ Yes

Please attach a list of references
› Janssen R, R. Delbroek & T. Molenaar, 2017. Vleermuizen op de Lonnekerberg mede in relatie tot het Airforce Festival. Monitoring en analyse van het gedrag van de passieve luisteraars gewone grootoorvleermuis, vale vleermuis en Bechsteins vleermuis. Bionet Natuuronderzoek, Stein. 2017 – 2. 53 pg incl bijlagen.

New data on seasonal movements was obtained
☑ No

6.12. Other activities carried out under this resolution (optional)
› No other activities

7. Consideration being given to the potential effects of pesticides on bats, and their food sources and efforts to replace timber treatment chemicals which are highly toxic to bats

Click "expand" to see the questions!

Resolution 4.5. Guidelines for the use of remedial timber treatment

7.1. Small projects to provide basic data to allow an assessment of the potential impact of industry on bat populations
☑ Yes

Please provide a list of references
› The diversity and level of pesticide contamination in i) dead bats, ii) bat faeces, and iii) the timber in the maternity colony roosts, of three maternity colonies of Geoffroy's bat (Myotis emarginatus) in the province of Limburg, the Netherlands were characterized (Guldemond et al., 2016). The detected concentrations of individual pesticides in the dead bats and the bat faeces and across sampling locations were highly variable. The observed concentrations are probably not acutely toxic for bats, but the chronic exposure may damage several organ systems. The use of alternative methods for timber treatment and fly control less harmful to bats are recommended.

You have attached the following Web links/URLs to this answer.

Pesticides in bats

7.2. Raising awareness of product users is taking place
☑ No

7.3. Legislation on products which have any adverse effects on bats
☑ Exists

Please attach documents or provide links
› As reported previously, the supply and use of remedial timber treatment chemicals is regulated by the Board for the Authorization of Pesticides. The instructions for the use of remedial timber treatment products do not refer to possible hazards to bats. Neither are recommendations given to the industry to minimize any hazard to bats as a result of remedial timber treatment. The use of several harmful chemicals, including pentachlorphenol, has been prohibited for timber treatment.

Comments (optional)
› No comments

Resolution 6.15. Impact on bat populations of the use of antiparasitic drugs for livestock

7.4. Efficient non-chemical methods to control livestock parasites and use of products of least toxicity to non-target species implemented
☑ No

7.5. Research on the use of antiparasitic drugs
☑ No

7.6. Recommendations in Annex I to the Resolution 6.15 are adopted
☑ No

7.7. Other activities carried out under this resolution
› In the project 'Boer zoekt ingekorven vleermuis' (Farmer looking for notched-eared bat) farmers were interviewed. Farmers with cattle use insecticides against flies. They reported that for stables with cattle where notched-eared bats formed smaller maternity groups (satellites from the larger known maternity roosts) the need to apply insecticides was very low to zero.

Comments (optional)
› Antiparasitic drugs may only be delivered on prescription from a veterinarian. Veterinarians are more cautious in providing Antiparasitic drugs for horses. They only give these drugs if worms have been found in the manure.

8. Further important activities to share with other Parties and Range States

Give details or provide links

› Recently a study showed that the total flying insect biomass decreased by more than 75 percent over 27 years in protected areas in Germany. Similar decrease is expected in other parts of Western Europe. What are the effects of this decrease on bat populations?
https://www.sciencedaily.com/releases/2017/10/171019100927.htm
https://www.theguardian.com/world/2018/mar/21/catastrophe-as-frances-bird-population-collapses-due-to-pesticides

In the last few years the phenomenon of mass-hibernacula of the Pipistrellus pipistrellus, with numbers between hundreds to thousands of bats (> 100 tot > 5000) in one building, gained more attention. This type of pipistrelle roosts are often found in buildings that need insolation (carbon emission reduction) or are being demolished (asbestos, poor insulation) and rebuild (zero carbon emission building). A method to actively survey this roost type in the Dutch urban landscape has been developed and is under review for publication.

Method description

- Jansen, E.A., E. Korsten, M.J. Schillemans, M. Boonman & H.J.G.A. Limpens, (in prep/under review). A method for active survey of mass hibernation sites of the Common pipistrelle (Pipistrellus pipistrellus) in the urban environment - METHODS PAPER - Lutra.
- Korsten, E., E.A. Jansen, M. Boonman, M.J. Schillemans & H.J.G.A. Limpens, 2016b. Swarm and Switch – on the trail of the hibernating common pipistrelle. Bat News (110) 8-10.

Basic technical reports

- Boekhout, S., G. Lubbers & R. Heins, 2016. BAT030 Vleermuisonderzoek 2015 Utrecht. Rapportage P7190 Eelerwoude Culemborg (i.s.m. Stofberg en Jonker Vleermuisonderzoek) i/o Gemeente Utrecht.
- Boonman, M. 2014. Onderzoek naar functie ziekenhuis Lichtenberg als overwinteringsplaats voor gewone dwergvleermuis. Notie met kenmerk 12-676/14.01453/MarBo Bureau Waardenburg Culemborg.
- Bouman, H., 2015. Winterverblijfplaatsen van vleermuizen in vijf onderzoeksgebieden van Utrecht. Beschrijving van de resultaten van gericht onderzoek naar de aanwezigheid van winterverblijfplaatsen in gebouwen. Projectnummer 1225284. Tauw BV, Utrecht.
- Brekelmans, F.L.A., M. Bleijerveld en M.J. Schillemans (met bijdragen van M. Boonman, W. Franken, E. Korsten, H.J.G.A. Limpens), 2015. Projectplan Flora- en faunawet. Herontwikkeling De Weezenlanden, Zwolle. Bureau Waardenburg, Bureau Bleijerveld en Zoogdiervereniging.
- Hommersen, V.J.A., H.J.G.A Limpens, en M.J. Schillemans, 2017. Zwermen in de Winter - Inventarisatie van winterverblijf-indicerend en bevestigend zwermgedrag van de gewone dwergvleermuis in gemeente Ede. Rapport 2017.03. De Zoogdiervereniging, Nijmegen.
- Jansen, E.A., 2008. Voorkomen van vleermuizen op en rond de Uithof, - een onderzoek naar voorkomen en functies. VZZ rapport 2008.031. Zoogdiervereniging VZZ, Arnhem.
- Jansen, E.A, 2010. Vleermuizen in Overvecht; Voorkomen, functies en waarden. Rapport 2009.044 Zoogdiervereniging, Nijmegen.
- Jansen, E., M. Schillemans & H. Hollander, 2015b. Begeleiding herstelwerkzaamheden kantongerecht Tilburg. Mitigatie- en compensatieplan vleermuizen. Rapport 2015.033. Bureau van de Zoogdiervereniging, Nijmegen.
- Korsten, E., G.J. Brandjes & F.L.A. Brekelmans, 2014. Vleermuizen, gierzwaluw en huismus Oude Stad Tilburg. Inventarisatie 2013. BuWa-rapportnr. 14-023. Bureau Waardenburg, Culemborg. 100 p.
- Korsten, E., G.J. Brandjes & F.L.A. Brekelmans, 2016a. Vleermuizen, gierzwaluw en huismus in Tilburg Noord. Inventarisatie 2015. BuWa-rapportnr. 16-104, Bureau Waardenburg, Culemborg. 90 p.
- Limpens, H.J.G.A., M. Bunskoek, H. Brendeke & M.J. Schillemans i.s.m. E. Korsten en M. Boonman, 2017. Monitoring vleermuizen Weezenlanden 2016 - Monitoring van gebruik van de maatregelen en van de populatieontwikkeling. Rapport 2017.13 Zoogdiervereniging, Nijmegen i.s.m. Ecogroen Advies- en Ingenieursbureau Zwolle en Bureau Waardenburg, Culemborg.
- Schillemans, M.J. & E.A. Jansen, 2014. Begeleiding Onderzoek naar Winterverblijven Utrecht. Memo N2014015 Bureau van de Zoogdiervereniging i/o Gemeente Utrecht. 4 pp.
- Witte, R.H & H.J.G.A. Limpens, 2018. Projectplan Slopen, bouwen en herinrichting van ‘De Slotvrouwe’, te Heemskerk. Begeleidende rapportage ten behoeve van ontheffingsaanvraag Wet natuurbescherming ex artikel 5.3. Endemica-rapport 18.06, Bureau Endemica, Alkmaar. Bureau van de Zoogdiervereniging, Nijmegen.

Assessment of the conservation status (favourable conservation status, FCS) of a species is an important aspect in testing whether a permit for a planning is possible. Model for the Assessment of the Favourable Conservation Status of bats in a specific planning proposal area was developed, a publication in English is being prepared.

Method description

- Limpens, H.J.G.A. & M.J. Schillemans, 2016. SVI voor vleermuizen bepalen in concreet plangebied - methodiek voor staat van instandhouding. - TOETS 01 16 P.28-31. + web-artikel 11pp.

Basic technical reports

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