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NATIONAL REPORT ON THE IMPLEMENTATION OF THE AGREEMENT ON THE CONSERVATION OF BATS IN EUROPE (EUROBATS)
BELGIUM 2010-2013

A: GENERAL INFORMATION

Name of Party: BELGIUM (3 Regions)

Date of Report: September 2014

Period Covered by Report: 2010 - 2013

Competent Authority: combined effort of

- Flemish Agency for Nature and Forests ANB
- Service public de Wallonie (SPW – DGARNE / DGO3)
- Brussels Environment, Brussels Capital Region,.

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B: STATUS OF BATS WITHIN THE TERRITORY OF THE PARTY

1. Summary of information about species occurring in Belgium, 2010-2013

Regular and yearly counts on the known and larger (caves and brick fortresses) or smaller (bunkers, ice cellars) hibernation sites, and the monitoring of summer maternity colonies are the basis for the evaluation of the status of resident bat species in Belgium. Efforts are done by NGOs (Natuurpunt, Natagora) and local authorities in the 3 Regions. A large amount of conservation activities in Belgium is due to the efforts of volunteers. The Belgian delegation to the Eurobats Agreement would like to express their thanks for all this excellent work.

Most of these standardised monitoring goes back tens of years, resulting in a highly comparable set of data on the evolution of bat numbers in Belgium. We may, however assume that numbers of bats counted in hibernation should be at least doubled to arrive at real numbers. The same applies for colonies: by far not all maternity colonies are known. For tree dwelling species, very few colonies are known so that numbers are not likely to be estimated.

In the 2013 National Report pursuant to the Habitats (FFH) Directive (the 2007-2012 report period), 19 of the 24 bat species occurring in Belgium were assessed (cf. Tab. 1, 2 & 3).

Few data are available for the five other species :

- *Vespertilio murinus*, is occasionally observed in migration;
- *Eptesicus nilsonii* was only recorded once previously (Červený, J. - Lecocq, Y. (1998) The northern bat (*Eptesicus nilssonii*) - new species for the bat fauna of *Belgium*. *Lynx*. Roč. 29:97-98),
- *Pipistrellus kuhlii*, recorded in Brussels in 2012 (http://www.bruxellesenvironnement.be/Templates/news.aspx?id=36613);
- *Nyctalus lasiopterus*, recently recorded along the shore (http://www.zoogdierenwerkgroep.be/category/categorie/verspreiding);
- *Pipistrellus pygmaeus*, recently observed too (Dekeukeleire, D. (2010) - First record of soprano pipistrelle (Pipistrellus pygmaeus Leach, 1825; Chiroptera: Vespertilionidae) in Wallonia (Belgium)." Lutra53(2): 105-107).

2. General population situation and trends

The overall picture is of a relative status quo, with respect to the 2007 EU reporting (19 species). 40% of the species are in a favourable conservation status, 40% remain unfavorable, among which many tree dwelling species. For 20% the situation is unknown. Most species that depend on underground roost for hibernation, are stable or still increasing. With the exception of *Myotis daubentonii* which population seems to be in decline, at least for the Atlantic biogeographic region.

3. Habitats and roosts

The habitats requirements of the various bat species are better assessed thanks to ultrasonic recording devices, radiotracking sessions and various field observations. This led to the definition of several Natura 2000 areas. Recently, an increasing number of summer roosts of endangered species were detected thanks to trapping and radiotagging, leading to better conservation measures of these roosts.

4. Threats

Numerous threat factors are considered in Belgium :

- Demolition or destruction of buildings and settlement structures
- Changes in types/intensity of utilization
- Anthropogenic reduction of habitat interconnections; habitat fragmentation
- Tree maintenance, felling of trees for reasons of traffic safety
- Removal of hedges and patches of woodland

- Removal of old and dead wood
- Use of biocides, hormones and chemicals (agriculture)
- Logging, clear-cutting
- Land consolidation in agricultural areas
- Forest-management measures
- Wind-energy production
- Rock-climbing, mountain climbing, caving
- Intensification of agricultural use
- Renovation and restoration of buildings
- Road and highway construction

5. Data collection

Censuses of bat species are conducted both by regional authorities and NGO's. Results are stored in detailed database.

Tab. 1 : Assessment of the range, its trends and population size of bat species in Belgium, as set forth in the 2013 National Report pursuant to the Habitats (FFH) directive.

Species	Zone	Range (km²)	Short term trends	Long term trends	Fav ref range	Pop size min	Pop size max
Barbastella barbastellus	ATL	0	-	-	>>	0	0
Barbastella barbastellus	CONT	1.100	(=)	-	>>	0	10
Eptesicus serotinus	ATL	22.699	(=)	/	-	5.000	10.000
Eptesicus serotinus	CONT	14.799	(=)	-	=	3.500	10.000
Myois nattereri	ATL	20.199	=	-	=	3.000	5.000
Myois nattereri	CONT	13.499	=	-	=	1.320	6.600
Myotis alcathoe	CONT	800	?	?	?	?	?
Myotis bechsteinii	ATL	6.199	?	?	=	300	600
Myotis bechsteinii	CONT	12.899	?	?	=	2.250	6.750
Myotis brandtii	ATL	2.800	?	?	?	30	500
Myotis brandtii	CONT	2.800	?	?	?	400	1.200
Myotis dasycneme	ATL	10.700	-	?	>>	250	350
Myotis dasycneme	CONT	5.299	=	?	=	45	100
Myotis daubentonii	ATL	22.699	=	/	=	4.000	6.000
Myotis daubentonii	CONT	14.399	=	=	=	6.800	17.000
Myotis emarginatus	ATL	13.999	-	-		1.200	1.600
Myotis emarginatus	CONT	13.399	=	?	?	2.000	4.000
Myotis myotis	ATL	3.800	=	-	>>	100	160
Myotis myotis	CONT	13.899	=	?	=	1.250	2.500
Myotis mystacinus	ATL	21.299	=	/	=	3.500	5.000
Myotis mystacinus	CONT	14.399	=	=	=	40.000	120.000
Nyctalus leislerii	ATL	8.099	=	?	=	40	150
Nyctalus leislerii	CONT	9.899	(=)	?	=	220	1.100
Nyctalus noctula	ATL	21.799	=	?	=	500	1.500
Nyctalus noctula	CONT	13.899	(=)	?	=	900	2.700
Pipistrellus nathusii	ATL	21.499	=	?	=	/	/
Pipistrellus nathusii	CONT	10.699	?	?	?	/	/
Pipistrellus pipistrellus	ATL	22.699	=		=	100.000	900.000
Pipistrellus pipistrellus	CONT	14.999	=		=	100.000	600.000
Plecotus auritus	ATL	21.899	=	?	=	10.000	25.000
Plecotus auritus	CONT	13.999	=	?	=	4.000	20.000
Plecotus austriacus	ATL	14.699	?	?	?	150	500
Plecotus austriacus	CONT	11.099	=	?	=	1.000	5.000
Rhinolophus ferrumequinum	ATL	6.499	=	=	>>	1	5
Rhinolophus ferrumequinum	CONT	11.399	=	?	>	500	1.000
Rhinolophus hipposidersos	CONT	4.200	=	=	>>	300	350

Tab. 2 : Assessment of the conservation status of the range, of the population, of the habitats, of future prospects of bat species in Belgium, as set forth in the 2013 National Report pursuant to the Habitats (FFH) directive.

Species	Range	Population	Habitat species	Future prospect	**Overall assessment**
Barbastella barbastellus	Bad (U2-)	Bad (U2-)	Unknown	Inadequate (U1x)	**Bad (U2-)**
Barbastella barbastellus	Bad (U2x)	Bad (U2+)	Unknown	Inadequate (U1+)	**Bad (U2+)**
Eptesicus serotinus	FV	FV	Unknown	FV	**FV**
Eptesicus serotinus	FV	FV	Unknown	FV	**FV**
Myois nattereri	FV	FV	Unknown	FV	**FV**
Myois nattereri	FV	FV	Unknown	FV	**FV**
Myotis alcathoe	Unknown	Unknown	Unknown	Unknown	**Unknown (XX)**
Myotis bechsteinii	Unknown	Unknown	FV	Unknown	**Unknown (XX)**
Myotis bechsteinii	FV	Unknown	Unknown	Unknown	**Unknown (XX)**
Myotis brandtii	Unknown	Unknown	Unknown	Unknown	**Unknown (XX)**
Myotis brandtii	Unknown	Unknown	Unknown	Unknown	**Unknown (XX)**
Myotis dasycneme	Bad (U2-)	Inadequate (U1x)	Unknown	Inadequate (U1x)	**Bad (U2-)**
Myotis dasycneme	FV	Bad (U2=)	Unknown	Inadequate (U1x)	**Bad (U2-)**
Myotis daubentonii	FV	Bad (U2-)	Unknown	Inadequate (U1x)	**Bad (U2-)**
Myotis daubentonii	FV	Inadequate (U1=)	Unknown	Unknown	**Inadequate (U1x)**
Myotis emarginatus	Bad (U2x)	Inadequate (U1-)	Unknown	Inadequate (U1x)	**Bad (U2=)**
Myotis emarginatus	FV	Inadequate (U1+)	Unknown	Inadequate (U1x)	**Inadequate (U1x)**
Myotis myotis	**Bad (U2=)**	Inadequate (U1x)	Unknown	Inadequate (U1x)	**Bad (U2=)**
Myotis myotis	FV	Inadequate (U1+)	Unknown	Inadequate (U1x)	**Inadequate (U1x)**
Myotis mystacinus	FV	FV	Unknown	FV	**FV**
Myotis mystacinus	FV	FV	Unknown	FV	**FV**
Nyctalus leislerii	FV	Inadequate (U1x)	Unknown	Unknown	**Inadequate (U1x)**
Nyctalus leislerii	FV	Unknown (XX)	Unknown	Unknown	**Unknown (XX)**
Nyctalus noctula	FV	Inadequate (U1x)	Unknown	Inadequate (U1x)	**Inadequate (U1x)**
Nyctalus noctula	FV	Unknown	Unknown	Unknown	**Unknown (XX)**
Pipistrellus nathusii	FV	Inadequate (U1x)	Unknown	Inadequate (U1x)	**Inadequate (U1x)**
Pipistrellus nathusii	FV	Unknown	Unknown	Unknown	**Unknown (XX)**
Pipistrellus pipistrellus	FV	FV	Unknown	FV	**FV**
Pipistrellus pipistrellus	FV	FV	Unknown	FV	**FV**
Plecotus auritus	FV	FV	Unknown	FV	**FV**
Plecotus auritus	FV	FV	Unknown	FV	**FV**
Plecotus austriacus	Unknown	Inadequate (U1x)	Unknown	FV	**Inadequate (U1x)**
Plecotus austriacus	FV	Inadequate (U1x)	Unknown	Unknown	**Inadequate (U1x)**
Rhinolophus ferrumequinum	Unknown	Bad (U2=)	Unknown	Inadequate (U1x)	**Bad (U2=)**
Rhinolophus ferrumequinum	FV	Bad (U2+)	Unknown	Inadequate (U1x)	**Bad (U2+)**
Rhinolophus hipposidersos	FV	Bad (U2+)	Unknown	Bad (U2=)	**Bad (U2=)**

Tab. 3 : Assessment of the general trends of bat species in Belgium, as set forth in the 2013 National Report pursuant to the Habitats (FFH) directive.

Species	**Overall assessment**	**Overall assessement in 2007**	general apparent trends (diff between 2007-2013)	Real trends
Barbastella barbastellus	**Bad (U2-)**	**U2**	=	=
Barbastella barbastellus	**Bad (U2+)**	**U2**	=	=
Eptesicus serotinus	**FV**	**U1**	-	+
Eptesicus serotinus	**FV**	**FV**	=	=
Myois nattereri	**FV**	**FV**	=	?
Myois nattereri	**FV**	**U1**	=	-
Myotis alcathoe	**Unknown (XX)**	**XX**	=	?
Myotis bechsteinii	**Unknown (XX)**	**FV**	- -	-
Myotis bechsteinii	**Unknown (XX)**	**FV**	-	-
Myotis brandtii	**Unknown (XX)**	**U1**	=	?
Myotis brandtii	**Unknown (XX)**	**XX**	=	?
Myotis dasycneme	**Bad (U2-)**	**FV**	- -	-
Myotis dasycneme	**Bad (U2x)**	**U2**	=	=
Myotis daubentonii	**Bad (U2-)**	**FV**	?	?
Myotis daubentonii	**Inadequate (U1=)**	**FV**	?	?
Myotis emarginatus	**Bad (U2=)**	**FV**	- -	-
Myotis emarginatus	**Inadequate (U1+)**	**U1**	=	+
Myotis myotis	**Bad (U2=)**	**FV**	=	=
Myotis myotis	**Inadequate (U1+)**	**U1**	+	+
Myotis mystacinus	**FV**	**XX**	=	?
Myotis mystacinus	**FV**	**XX**	=	?
Nyctalus leislerii	**Inadequate (U1x)**	**XX**	- -	=
Nyctalus leislerii	**Unknown (XX)**	**U1**	=	+
Nyctalus noctula	**Inadequate (U1x)**	**FV**	=	=
Nyctalus noctula	**Unknown (XX)**	**FV**	=	+
Pipistrellus nathusii	**Inadequate (U1x)**	**FV**	=	=
Pipistrellus nathusii	**Unknown (XX)**	**XX**	?	?
Pipistrellus pipistrellus	**FV**	**U1**	=	?
Pipistrellus pipistrellus	**FV**	**FV**	-	?
Plecotus auritus	**FV**	**FV**	=	+
Plecotus auritus	**FV**	**FV**	=	+
Plecotus austriacus	**Inadequate (U1x)**	**XX**	?	?
Plecotus austriacus	**Inadequate (U1x)**	**XX**	=	?
Rhinolophus ferrumequinum	**Bad (U2=)**	**XX**	?	=
Rhinolophus ferrumequinum	**Bad (U2+)**	**U2**	=	+
Rhinolophus hipposidersos	**Bad (U2=)**	**-**	?	?

C. MEASURES TAKEN TO IMPLEMENT ARTICLE III OF THE AGREEMENT

1. Legal measures taken to protect bats, including enforcement action

1.1. All bat species protected: yes

Resolutions 4.6 and 5.5 - Guidelines for the issue of permits for the capture and study of captured wild bats

1.2. System of permits or licenses for the capture of bats: yes
1.3. System of permits or licenses for the keeping of bats for educational or animal welfare purposes: yes
1.4. System of permits or licenses for the capture, sampling, ringing, killing of bats for scientific study: yes

Resolutions 6.5 - Guidelines on ethics for research and field work practices

1.5. Code of practice for research and field work that addresses the context and legitimacy of acquisition, due diligence, long-term care, documentation, relevance and institutional aims: yes (Federal Law on animal welfare 14/08/1986)

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

Resolution 4.3 - Guidelines for the protection and management of important underground habitats for bats
2.1. List of important underground sites for bats and measures of protection (including Natura 2000, Emerald or other status) : Belgium completed the submission of 97 sites to the Eurobats important underground sites listing.

2.2. Guidelines for management of important underground sites for bats : Yes
(LAMOTTE, S. 2007) – Les chauves-souris dans les milieux souterrains protégés en Wallonie. Etat des populations, répartition et gîtes d'hivernage. – Région wallonne, Direction Générale des Ressources Naturelles et de l'Environnement, Division de la Nature et des Forêts, Travaux n° 29, 272 pp. URL: http://environnement.wallonie.be/publi/dnf/travaux_29_2007.pdf)

Resolutions 4.4 and 6.12 - Bat conservation and sustainable forest management

2.3. Identification and monitoring of key areas/elements for bats in forests / protection and restoration of these : Yes.

2.4. Code of best practice, to minimize damage to bats and their food from the use of pesticides and biocides especially in key areas : Not systematically. See

2.5. Training and awareness for forest managers and workers : Not systematically.

2.6. National guidance appropriate to their bat communities, forest ecosystems and forest management practices based on the principles in the EUROBATS Bats and Forestry leaflet: Yes : Guidelines for the biodiversity in Walloon public forests, together with PEFC certification. FSC certification in Flanders.

2.7. Examples of best practice forestry guidance: circulaire biodiversité:
http://environnement.wallonie.be/publi/dnf/normes.pdf;

Resolution 5.7 - Guidelines for the protection of overground roosts, with particular reference to roosts in buildings of cultural heritage importance
2.8. List of important overground roosts (including protection status) : submitted
2.9. Guidelines for custodians of historical buildings, on the protection of bat roosts : Yes
(http://environnement.wallonie.be/publi/dnf/combles_clochers_fr.pdf)

2.10. Summary report on interactions with custodians of historical buildings, on the protection of bat Roosts : No

3. Consideration given to habitats which are important to bats

Resolution 6.7 - Conservation and management of critical feeding areas, core areas around colonies and commuting routes
3.1. Rising awareness of the importance of critical feeding areas, core areas around known colonies and commuting routes for bats : Yes, not systematically
3.2. Measures to take bats into account in land use and planning decisions : Yes, recent advances in bat calls recording systems are usually used in environmental impact assessment studies.
3.3. Research and monitoring to improve understanding of the use of landscape by bats : Yes. Some research activities are conducted by NGO's and universities.
3.4. National guidelines, drawing on the general guidance published by the Advisory Committee : No

4. Activities to promote the awareness of the importance of conservation of bats
4.1. International Bat Night , led each year by NGOs Natuurpunt and Natagora, remains a major success, with activities all over Belgium, with thousands of participants.
4.2. Other important events

Resolution 4.11 - Recognizing the important role of NGOs in bat conservation
4.3. List of NGOs participating in /contributing to bat protection: Natuurpunt, Natagora, WWF, Cercle des Naturalistes de Belgique,…
4.4. Support to the most valuable activities of competent NGOs that have the potential to substantially improve trans-boundary cooperation and mutual assistance : not systematically

5. Additional action undertaken to safeguard populations of bats

Resolution 2.2 - Consistent monitoring methodologies
5.1. Implementation of Eurobats guidelines to ensure consistency and information exchange between Parties and Range States : Yes

Resolution 4.7, 5.6 and 6.11 - Wind turbines and bat populations
5.2. Investigations and research on the impact of wind turbines on bat populations : Yes. Bat activity is better taken into account since all wind farm projects usually include a permanent ultrasonic recording during the impact assessment. On a site-specific basis, according to the bat species recorded, new wind turbines are automatically stopped when bat activity is proved or supposed to be high.
For the first time, Belgium reported bat fatalities under wind turbines to the IWG.
5.3. Raising awareness on the impact of turbines on bats and the existence of some unsuitable habitats or sites for construction : Yes
5.4. Pre-construction impact assessments : Yes
5.5. National guidance following EUROBATS Pub.3 developed : Yes :
http://biodiversite.wallonie.be/servlet/Repository/28103.pdf?ID=28103

Resolution 4.12 - Priority species for auto-ecological studies
There is no bat priority species occurring in Belgium.

Resolution 5.4 - Monitoring bats across Europe
5.7. Involvement in a long-term pan-European surveillance to provide trend data : No
5.8. Rising awareness of underground sites : Yes
5.9. Exchange of information on monitoring and surveillance : Yes

5.10. Use of Guidelines for Bat Monitoring Methods to assess population trends : Yes
5.11. Capacity building of bat workers and surveyors, which support to carry out bat surveillance projects ? : Yes

Resolution 6.6 - Guidelines for the prevention, detection and control of lethal fungal infections in bats
5.12. Informing bat conservation and caving communities are aware of the White Nose Syndrome threat in North America : Yes
5.13. Surveillance for the presence of fungal infections : Yes
5.14. Plan for the contingency that lethal fungal infections become established in Europe and include precautionary measures to prevent spread : No
Further information is spread by Belgian authorities about zoonosis carried by bats : http://biodiversite.wallonie.be/fr/nos-especes.html?IDC=5800

Resolution 6.13 - Bats as indicators for biodiversity
5.15. Development of (national, regional and pan-European) biodiversity indicators for appropriate target audiences, using bat data : Yes
5.16. Incorporation of bat data within high profile multi-taxa indicators to make them more truly representative of biodiversity : Yes
5.17. Gathering the data for these indicators Yes (Body in charge of this gathering : in Wallonia : “Cellule de l’Etat de l’Environnement))
5.18. Cooperation platforms that facilitate the required data exchange Yes

Resolution 6.14 - Impact of roads and other traffic infrastructures on bats
5.19. Taking bats into account during the planning, construction and operation of roads and other infrastructure projects : Yes sometimes, but not systematically
5.20. Research into the impact of new and, where appropriate, existing roads and other infrastructure on bats and into the effectiveness of mitigation measures : No
5.21. National or supranational guidelines : No

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

Resolution 2.3 – Transboundary programme: species proposals
6.1. Inclusion of *Myotis dasycneme* and *Pipistrellus nathusii* in trans-boundary cooperation : Yes, for *Myotis dasycneme* : censuses are conducted simultaneously with Dutch observers.

Resolution 2.4 – Transboundary programme: habitat proposals
6.2. National research on underground sites : No
6.3. National research on forests : No
6.4. Provide an assessment of sites experiencing man-made problems : No

Resolution 5.2 – Bat rabies in Europe
6.5. National bat rabies surveillance network : Yes, see https://www.wiv-isp.be/odobz-domti/fr/indexf079.html?page=virus_de_la_rage
6.6. Implementation of precautionary advice to avoid infection; ensure bat vaccination is compulsory : No, bat vaccination is not compulsory for bat workers, only highly recommended.
6.7. Organism in charge of recording of all test results and their submission to the World Health Organisation : The Scientific Institute of Public Health (known as "WIV-ISP")
Researches were also conducted on Coronaviruses in Belgium, revealing no prevalence among bats (Van Gucht et al 2014). Further information is spread by Belgian authorities about zoonosis carried by bats : http://biodiversite.wallonie.be/fr/nos-especes.html?IDC=5800

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

6.8. Code of Practice that addresses the context and legitimacy of acquisition, due diligence, long-term care, documentation, relevance and institutional aims : Yes (Loi fédérale relative à la protection et au bien-être des animaux du 14/08/1986, modifiée par la loi du 26/03/1993 et la loi du 04/05/1995)

Resolution 6.8 – Monitoring of daily and seasonal movements of bats
6.9. Research in daily/seasonal movements
Several radiotracking studies, mainly conducted to detect summer roosts

Species	Daily	Seasonal
Rhinolophus ferrumequinum	Wallonia	
Myotis emarginatus	Wallonia	
Myotis bechsteinii		Flanders

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

Resolution 4.5 – Guidelines for the use of remedial timber treatment
7.1. Implementation of small projects to provide basic data to allow an assessment of the potential impact of industry on bat populations : No
7.2. Raising awareness of product users : No
7.3. Legislation on products which have any adverse effects on bats : No

Resolution 6.15 – Impact on bat populations of the use of antiparasitic drugs for livestock
7.4. Development of efficient non-chemical methods to control livestock parasites and use of products of least toxicity to non-target species : Yes, research conducted by the University of Liège – Faculty of veterinary medicine.

7.5. Research on the use of antiparasitic drugs : Yes, research conducted by the University of Liège – Faculty of veterinary medicine.

7.6. Adoption of recommendations in Annex I :Yes. Awareness of farmers trough a new publication in French, AGRINATURE (available on http://www.agrinature.be/pdf/les-reines-de-la-nuit.pdf) and also through a LIFE project (*www.lifeprairiesbocageres.eu)*.

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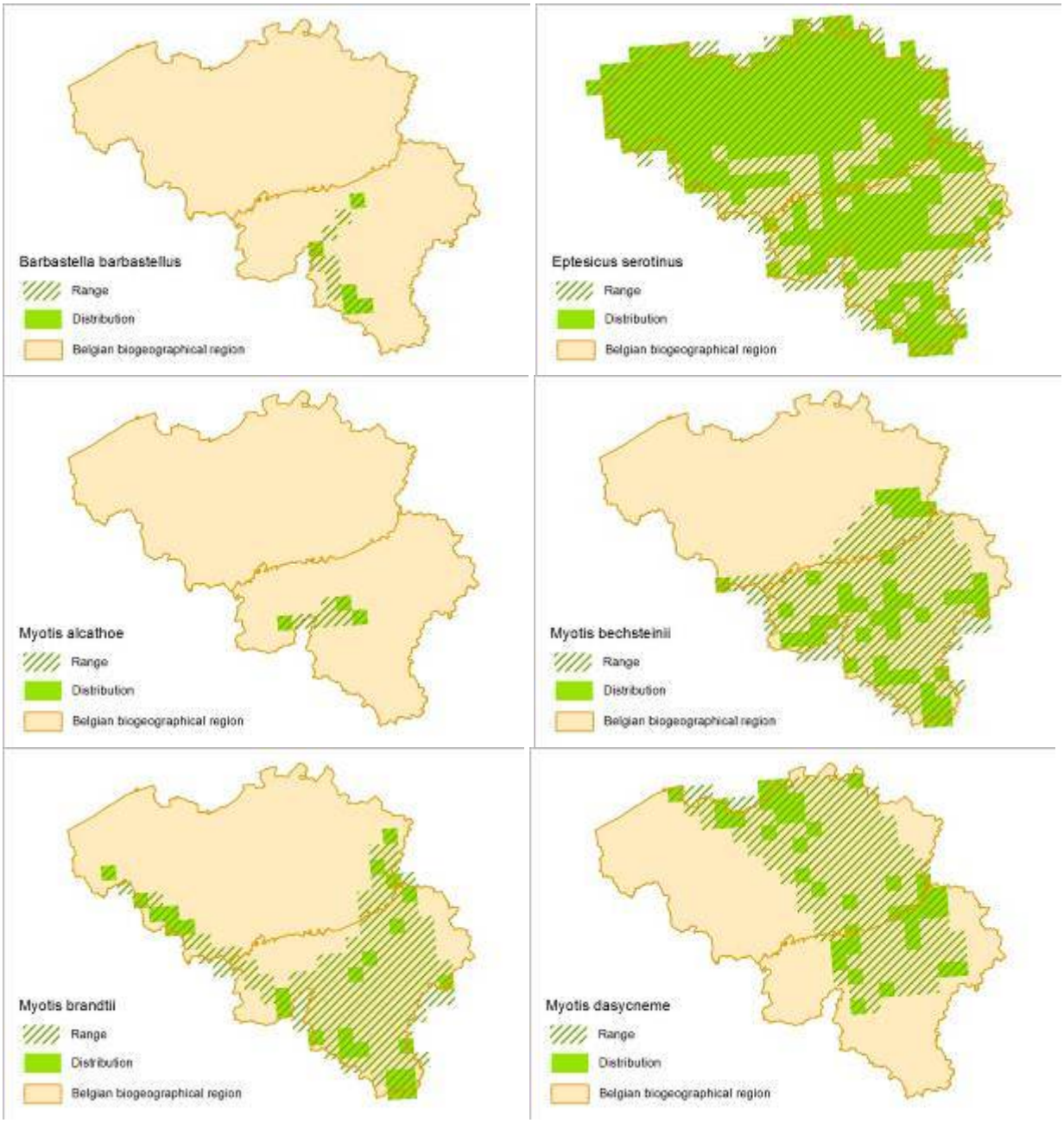
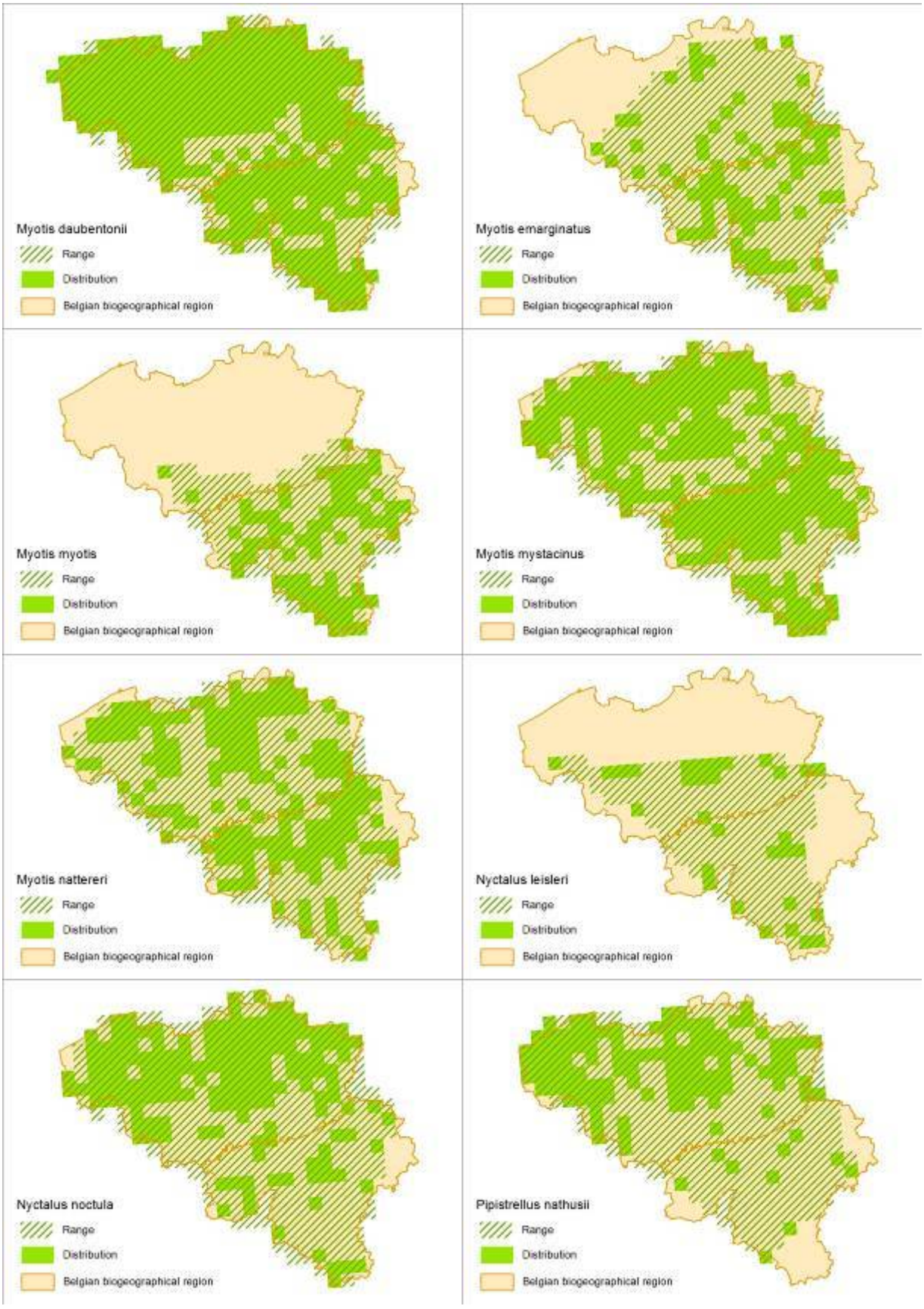
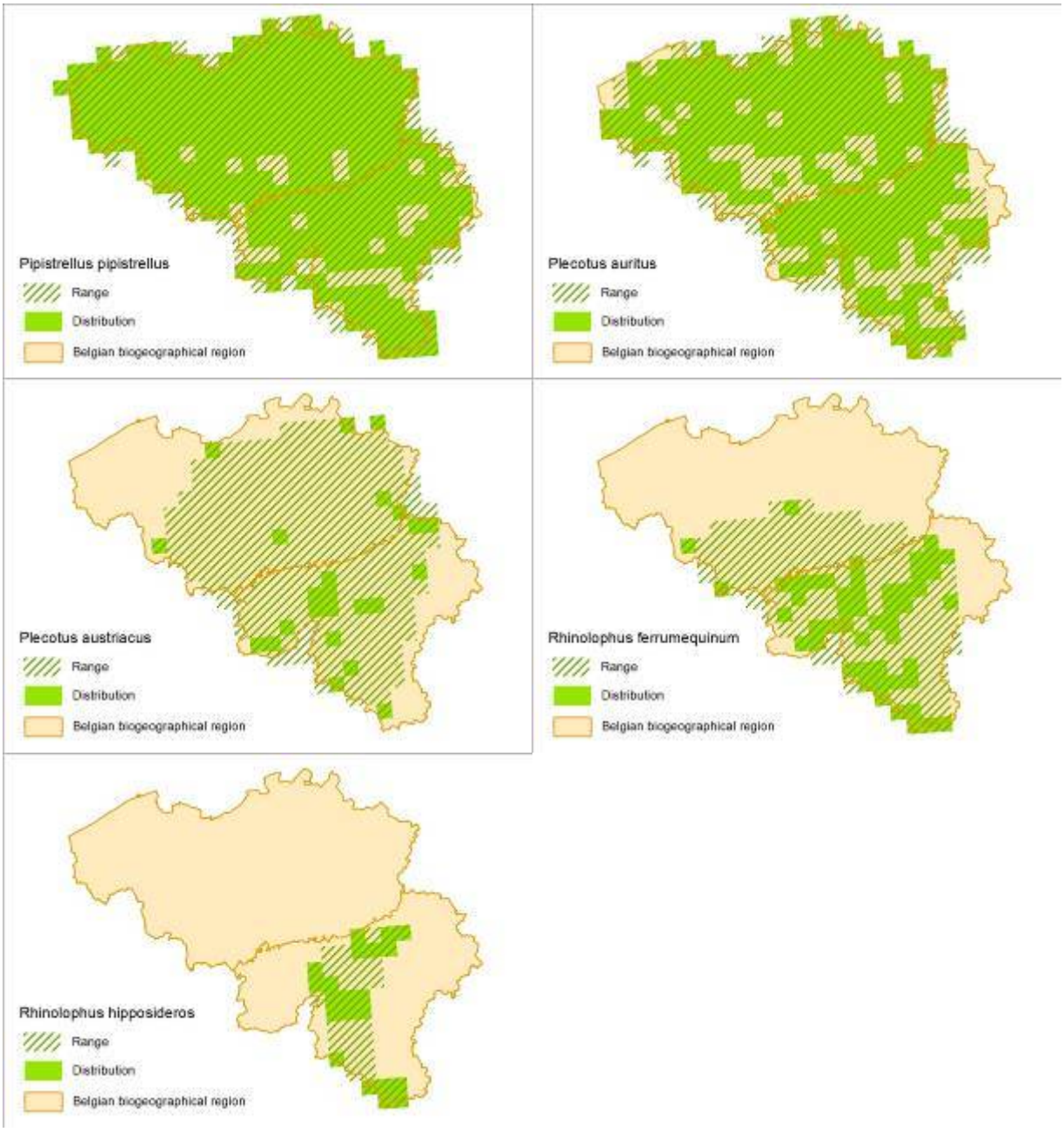
G. ANNEX : Distribution and range maps of species of the habitat Directive (status 2013)




Myotis daubentonii
Range
Distribution
Belgian biogeographical region
Myotis emarginatus
Range
Distribution
Belgian biogeographical region
Myotis myotis
Range
Distribution
Belgian biogeographical region
Myotis mystacinus
Range
Distribution
Belgian biogeographical region
Myotis nattereri
Range
Distribution
Belgian biogeographical region
Nyctalus leisleri
Range
Distribution
Belgian biogeographical region
Nyctalus noctula
Range
Distribution
Belgian biogeographical region
Pipistrellus nathusii
Range
Distribution
Belgian biogeographical region


Pipistrellus pipistrellus
Range
Distribution
Belgian biogeographical region
Plecotus auritus
Range
Distribution
Belgian biogeographical region
Plecotus austriacus
Range
Distribution
Belgian biogeographical region
Rhinolophus ferrumequinum
Range
Distribution
Belgian biogeographical region
Rhinolophus hipposideros
Range
Distribution
Belgian biogeographical region