

## 28<sup>th</sup> Meeting of the Advisory Committee

Online meeting, 8-11 April 2024

### Record



#### 1. Attendance

This is listed in Annex 1 to the record.

#### 2. Opening remarks

The Chair of the Advisory Committee, Ms. Ruth Petermann, opened the meeting and expressed her pleasure to welcome the delegates to the 28<sup>th</sup> meeting of the Advisory Committee to EUROBATS (AC28). Based on the decision taken at the 9<sup>th</sup> Session of the Meeting of the Parties (MoP9) in Brijuni, Croatia, this AC meeting was to be held online. Ms. Petermann thanked the Parties that had given a voluntary contribution in an attempt to make this AC meeting an in-person one, however the funds gathered had not been sufficient. Therefore, she invited the AC delegates to approach their administrative focal points and ask for a contribution to the EUROBATS budget so that at least the following AC meeting could be held in person. Ms. Petermann concluded by reminding the participants that this format of the meetings required very concentrated work, so she invited the delegates to actively participate and wished them a successful meeting.

Mr. Andreas Streit, EUROBATS Executive Secretary, expressed his pleasure to see all the delegates although only online. He hoped that good results could be achieved during AC28. Though the schedule of the meeting was quite tight, Mr. Streit assured the participants that there would be time for all the discussions needed for the Advisory Committee to progress with its work.

#### 3. Adoption of the agenda

The AC-Chair asked whether there were any objections or comments to the agenda. There being no objections, it was adopted.

#### 4. Summary reports by Parties, Non-Party Range States, and Observers

##### **PARTIES**

##### **BOSNIA AND HERZEGOVINA:**

There are 33 bat species in Bosnia and Herzegovina, 27 of which are protected in the entity of Republika Srpska, while only 18 are protected in the entity of Federation of Bosnia and Herzegovina. Although the need to protect all known bat species in accordance with the signed Agreement on bats protection has been repeatedly pointed out, there have been no reactions from the entity ministry and department authorities.

The National Report for the period 2021-2023 has been prepared and is awaiting confirmation of the approval for submission by the appropriate state institution.

Data on the bats of Bosnia and Herzegovina will be found in the new edition of the European Atlas of Mammals.

The International Bat Night in 2023 was held in the town of Zavidovići, where over 200 participants were present and took part in various activities. On that occasion, the city administration signed a memorandum, promoting the city of Zavidovići as a "Bat Friendly City", the first of this kind in the region.

In the underground Dardagani quarry near Zvornik (Eastern Bosnia), death of around thirty individuals of the bat species *Miniopterus schreibersii* has been recorded. Research at the Faculty of Veterinary Medicine in Sarajevo has shown the presence of Lloviu virus.

##### **CROATIA:**

Development and testing of the national bat-monitoring programme started at the end of December 2021 and was finalised in September 2023. It is publicly available (Rnjak et al 2023)\*. One of the important results are also the updates of the list of internationally important underground sites as well as the list of important overground roosts. The implementation of the National bat monitoring programme is expected to be completed by the end of this year.

Croatia has implemented national strategic project "Development of Natura 2000 management framework in Croatia". Management plans for 65 percent of Natura 2000 area in Croatia, including Natura 2000 sites designated for bat conservation,

have been adopted and are available via bioportal in the relevant SDFs (<https://bioportal.hr/gis/> ).

Overground roosts continue being under significant threat, even those in which bats are conservation targets, such as HR2001276 Murvica – samostan designated for maternity colonies of *Rhinolophus ferrumequinum*, *Rh. blasii* and *Myotis emarginatus*, where planning of restoration is in progress.

Concerning the authorisation of wind farm projects affecting Natura 2000 sites, the EU Commission has called on Croatia to correctly implement the Habitats Directive.

With regards to the revised RED Directive, designation of renewables acceleration areas is currently under development.

\*Rnjak D., P. Presetnik, G. Rnjak, S. Maleš, M. Janeš, D. Grozić, V. Zrnčić, N. Hanžek, M. Kipson, H. Hodak, L. Lučev, D. Kovačić, E. Kovač (2023): Nacionalni program praćenja stanja šišmiša s rezultatima praćenja, GRUPA 4: „Izrada i razvoj programa praćenja za šišmiše s jačanjem kapaciteta dionika sustava praćenja i izvješćivanja“. (Hamidović D., ur.). Geonatura d.o.o., Zagreb. Available as PDF: <https://hrpres.mzoe.hr/s/rdLL53w4NxsaCRY>.

## **CZECH REPUBLIC:**

The following points should be highlighted in reference to:

### **Bat monitoring and surveys:**

#### Continuing and starting monitoring and survey programs:

- Long-term monitoring (ca. 800 hibernacula; ca. 300 maternity colonies) – *Rhinolophus ferrumequinum*, a very rare species for the Czech Republic, has been recorded in Bohemian karst after a long period of time;
- Short-term monitoring (occurrence of bats in buildings across the whole country as well as bats in old trees in parks);
- Local surveys;
- Cooperation with France on pan European monitoring of migration routes (<https://bat-migration-europe.netlify.app/project/?msclkid=64727098d03c11eca2ff04dcfefc8126>).

## **Conservation:**

Research on *Plecotus austriacus*, the species which in the Czech Republic is showing a steady decrease of population, has been done. The reason is most probably disappearance of summer and winter roosts, where they form small colonies, often unnoticed by owners. Every reconstruction usually leads to destroying the roosts. Many small hibernating places (bunkers) have been sold to private persons. In contrary to the caves, these are not protected.

### Bats, buildings, and insulation projects:

- Six online workshops focused on bats in buildings for stakeholders;
- Project on conservation of bats in towns.

### Bats and pesticides:

- Transboundary cooperation concerning bats and pesticides (indicated 200 pesticides from colonies mainly from the Czech Republic, the Slovak Republic, Croatia, Slovenia, Belgium).

### Bats and forests:

- Online workshops focused on bats in old trees for stakeholders;
- Cooperation in LIFE +PODKOWIEC TOWERS project in Poland, the Czech Republic and Slovakia concerning *back to the forest – holistic conservation of bat breeding habitats*.

### Bats and light pollution:

- The start of research on light pollution included scientists from three universities.

### Bats and wind turbines:

- Obvious increase of lobby of developers in comparison to the previous decade, problems with level of data evaluation and quality of assessment.

## **Bats and climate change:**

- Increased evidence of *Pipistrellus kuhlii* and *Hypsugo savii*.

## **Education, public events, promotion, communication with public:**

Most of awareness raising work is being done by the NGO Czech Bat Conservation Trust (ČESON), locally in Prague, and also by the NGO Nyctalus.

Lots of activities have been conducted online or designed as a family activity with instruction on the internet:

- Consultancy line with more than 1,000 cases;
- Taking part in administrative procedures in 59 cases;
- IBN on 45 sites;
- Programs for schools with bats (over 130);
- Other public events (over 100);
- Itinerant exhibition „Bats – mysterious and vulnerable “;
- Gradual translation of the website [napude.sousednetopyr.cz](http://napude.sousednetopyr.cz) into English;
- Norway funded project „Wing neighbours “;
- Questing and geocaching routes for families with instructions on websites;
- Online educational programs „Bat evening-party“;
- Project „Hidden life in sights“ – an interactive bat map with 68 localities;
- “Bat surveyors” – program for grammar schools and other organisations with possibility to borrow basic equipment with heterodyne detector and brochure;
- Annual award of bat-friendly sites (buildings, schools, castles, etc.);
- Bat rescue and rehabilitation.

#### **FRANCE:**

The following points should be highlighted in reference to:

#### **National Action Plan 2016-2025** (<https://plan-actions-chiropteres.fr/>):

- Meeting of stakeholders of regional action plans took place on 20-22 November 2023;
- Action 8: Bats in forests – A colloquium was organised in March 2023 in Paris (190 attendants). There was also a large participation to the training course in Rambouillet. A booklet has been published: Guide Chauves-souris et forêt, des alliées indispensables, by Marine Lauer and Laurent Tillon.
- Protection measures for underground roosts – A booklet of best practice examples and experiences has been published ([https://plan-actions-chiropteres.fr/sites/default/files/fichiers/amenagements\\_milieu\\_souterrain\\_sfepm\\_2023\\_hd.pdf](https://plan-actions-chiropteres.fr/sites/default/files/fichiers/amenagements_milieu_souterrain_sfepm_2023_hd.pdf));
- Solar power plants: – An online meeting was organised in September 2023;

- The synthesis of 2022 actions is available (<https://plan-actions-chiropteres.fr/actualites-agenda/consultez-le-bilan-du-pnac-2022>);
- Three newsletters are disseminated per year (<https://plan-actions-chiropteres.fr/publications/chiropteres-infos>).

**Biennial meeting of French bat workers:** The meeting was organised by the Natural History Museum of Bourges in March 2023. It was attended by the maximum number of 470 people for the conference room. The program is available on the website

([file:///C:/Users/Stephane%20Aulagnier/Downloads/version definitive programme cs 2024.pdf](file:///C:/Users/Stephane%20Aulagnier/Downloads/version%20definitive%20programme%20cs%202024.pdf)).

**Atlas of French wild mammals, Volume 4.:** The section on bats has been prepared by the French Mammal Society and the National Museum of Natural History. This volume will deal with the 175 French species, (ca. 800 pages). Provisional maps have been circulated for the recent meeting of the editorial committee. Many species accounts have been sent to the coordinator (only half species for French Guiana) and most of the texts are expected to be ready by the end of May 2024.

**New species endemic to Corsica:** *Myotis* sp. C has been described as *Myotis nustrale*, the Corsican myotis (Puechmaille S.J., Dool S., Beuneux G. & Ruedi M., 2023. Newly described and already endangered: a new mammal species endemic to Corsica. *Rev. suisse Zool.*, 130(2): 335-351). This species is under assessment by the IUCN.

**Publications:** The Natural Museum of Bourges collects published reports and papers on French bat research and conservation. A list is available at <http://www.museum-bourges.net/chauve-souris-bibliographie-fran%C3%A7aise-80.html>.

#### **GERMANY:**

Since AC27 in Sarajevo in 2023 several government-funded projects are in their final phase. Among others the project on grey long-eared bats and their feeding ecology in the face of insect decline, the barbastelle project, the project on ALAN and brown long-eared bats. Projects covering the topic of wind energy are also ongoing or are being finalised – bat activity in a wind energy test field or bat activity before and after wind energy planning, respectively.

The BATLAS-Project has entered an advanced stage and will be finalised in summer 2024. Mounted on BATLAS is the project BatTrend, which started in 2023. BatTrend is an integrative and cross-methodological approach to improve the assessment of bats on a populational level, with a strong conservational aspect.

The project on the action plan for lesser noctules entered its second year and shows encouraging results concerning data sets for distribution, molecular samples, and new telemetry methods.

With the start of the national species conservation programme (nAHP) in 2023, first project-sketches for bat projects are being reviewed, both covering roost and feeding habitat protection.

In addition, promising project proposals are on the way for species such as noctule bats, which are particularly affected by the expansion of renewable energies.

## **HUNGARY:**

A wide range of bat conservation activities have been carried out in Hungary since the last AC meeting, including research, practical conservation, and education (public awareness raising). A brief overview of these is presented below.

### Research activities:

- A countrywide monitoring programme was launched in 2004 which includes a long-term survey on the trends in bat populations in order to introduce effective conservation management based on the collected data. The programme involves regular monitoring of hibernating sites (e.g., caves, mine tunnels), summer roosts in buildings (e.g., churches, castles), swarming sites, regular checking of the roosts of Schreibers' bat (*Miniopterus schreibersii*) and monitoring of the impact of different bat conservation activities. The programme is still ongoing. In 2023, 49 different hibernation sites (caves or mine tunnels), 141 roosts in buildings, 9 swarming sites and 9 roosts of Schreiber's bat were surveyed.
- More and more solar farms are being deployed in Hungary and their ecological effects are largely unknown. Behavioural experiments have previously proven that smooth surfaces such as solar panels act as sensory

traps for bats and insects, increasing collision risk, and suggesting that solar farms may affect local ecosystems in a complex way. The effect of solar farms has been tested in Hungary using bioacoustics methods.

- The effects of different silviculture methods in hilly areas have been examined using acoustic methods.
- A large-scale virological investigation of the Hungarian bats is an ongoing project. This includes many aspects of virology, from screening for new pathogens to studying the effects of different ecological and behavioural traits on bat viromes.
- In the frame of the OneBAT Horizon program, a detailed virological and ecological investigation of certain Schreibers' bat populations is ongoing. This includes studying the disease ecology of three main viral groups: coronaviruses, lyssaviruses, and filoviruses (*Lloviu cuevavirus*), the study of bat-virus interactions, and host ecology (movements, population health, etc).
- Microclimate is measured at 10 different sites to assess and evaluate the impact of climate change on bats in maternity roosts.

#### Conservation activities:

- At least 10 summer roosts in buildings have been cleaned and maintained for bats.
- There is a lot of renovation work being done in the churches, and this threatens many bat colonies. Progress has been made in regulating the renovation of buildings, but these rules are often neglected. Only a few buildings have been renovated in a suitable way. A detailed information sheet has been collated to introduce good practice in renovating buildings.
- A significant number of buildings has been renovated and insulated in Hungary and, in some cases, there has been a need for exclusion of bats. Also, in some cases, the owners of houses wanted to get rid of disturbing bat colonies. A guideline was released to detail the recommendations for the appropriate exclusion of bats from buildings.
- Numerous bat boxes and other artificial roosts have been placed in forests and on buildings to mitigate the loss of roosting places.
- In 2023, the bat rescue work continued in several rehabilitation centres.



- The building of wind farms will be eased in the future in Hungary, hence information about their possible negative effects on bats and bat populations have been collected and presented to the stakeholders.

Public awareness raising activities:

- International Bat Nights have been organised by national park directorates and NGOs.
- Permanent and temporary poster and photo exhibitions have been organised by national park directorates and the BirdLife Hungary Mammal Working Group.
- More than 50 presentations and lectures have been held in schools and other places.
- News about bats (e.g. ‘*The bat species of the month*’ series) and different guidelines on the protection of bats (e.g. how to save bats, how to make bat boxes) are published regularly on the website of BirdLife Hungary (<https://mme.hu/deneverek-altalanos>).
- A webcam has been installed in an attic to show the life of a bat colony.

**IRELAND:**

The National Bat Monitoring Programme continues to be managed by Bat Conservation Ireland, the national bat NGO, under contract to the National Parks & Wildlife Service. The programme contains four separate monitoring schemes, covering seven of Irish nine species: car transect surveys, waterways surveys, brown long-eared summer roost surveys, and lesser horseshoe bat summer and winter roost surveys. The latest report can be accessed here: <https://www.npws.ie/sites/default/files/publications/pdf/IWM137.pdf>.

Various monitoring methods for the two remaining species – *Myotis mystacinus* and *Myotis nattereri* – have been tested in recent years. An approach using walked transects appears to gather the best data. The pilot study of this method that was conducted in 10 woodlands in 2023 will be expanded to other parts of Ireland during 2024. The report on the pilot study can be read here: [https://www.npws.ie/sites/default/files/publications/pdf/Woodland2023FinalReport\\_April2024\\_V2.pdf](https://www.npws.ie/sites/default/files/publications/pdf/Woodland2023FinalReport_April2024_V2.pdf).

Data collection on the migratory behaviour of *Nathusius pipistrelles* continues. This work has been accelerated because of the growing interest in offshore wind

farm development, especially on the east coast of Ireland. As part of this work, the ringing of *Nathusius pipistrelles* has also started and some radio-tracking work on them will be undertaken this summer to try and find maternity roosts.

The implementation of the Species Action Plan for the Lesser Horseshoe Bat continues. All the important stakeholders are involved in the steering committee (the Forestry industry, Department of Agriculture, Historic properties, Local authorities and, of course, the National Parks & Wildlife Service) and, so far, it has been a very positive and constructive experience. The SAP can be downloaded here:

<https://www.npws.ie/sites/default/files/publications/pdf/Lesser%20Horseshoe%20Bat%20Species%20Action%20Plan%202022-2026.pdf>.

### **ISRAEL:**

1. The National Monitoring Plan for Israel's Bat Species, in the scope of which more than 100 sites (roost and foraging sites) throughout the country are surveyed annually, is continuing, following a recent review by the Israel Nature & Parks Authority (INPA). INPA is migrating to full spectrum recordings for site monitoring and a call library for Israeli bat species is being built and validated.
2. Eight species of bats have been discovered so far in the mandatory post-construction mortality surveys using trained dogs at four windfarms which are now operational: *Pipistrellus kuhlii*, *Pipistrellus pipistrellus*, *Rhinolophus ferrumequinum*, *Rhinopoma cystops*, *Rhinopoma micrphylum*, *Tadarida teniotis*, *Taphozous nudiventris*, and *Myotis mystacinus*. Two windfarms have exceeded their annual take permit issued by INPA, and following an investigation of non-compliance by the Ministry of Environment, the operators are currently working together with INPA on smart curtailment to minimize the impact on bats.
3. INPA together with the Environmental Ministry and the Society for Protection of Nature (an NGO) have published a comprehensive planner's guide for mitigating the ecological effects of light pollution in open landscapes (in Hebrew). EUROBATS guidelines are referenced and implemented in this document.
4. INPA has compiled guidelines for the evacuation of Egyptian fruit bats, *Rousettus aegyptiacus*, from abandoned buildings prior to their demolition.

These mandatory guidelines are currently being successfully implemented. An English translation of the guidelines has been shared with the EUROBATs Bat Rescue and Rehabilitation Working Group.

#### **ITALY:**

The most relevant news concerning bat conservation in Italy revolves around the protection of a site known as 'Bosco di Pradiziolo' in the Friuli Venezia Giulia Region. This woodland patch is surrounded by intensive agriculture and is home to a large mixed population of greater and common noctules. Following the discovery of the site and the significant attention it has received from Italian bat specialists, the regional authorities have granted the site a special legal protection framework specifically developed to safeguard the bats.

Another significant bat habitat, an underground Roman aqueduct in the Faicchio city council of the Benevento province, was filled with a large amount of sediment due to a landslide caused by exceptional rainfall in June 2023. The site is used year-round by over 700 bats belonging to six species. Prompt intervention by the University of Naples Federico II and the city council led to the removal of the sediments, allowing the bats to resume using the location for hibernation. The site is currently under monitoring, and a project is underway to prevent future landslides in the area and enhance the protection of the bats residing there.

#### **NORWAY:**

There is a growing awareness about bats among the general public, environmental consultants, non-governmental organizations (NGOs), private companies like wind energy developers, and government agencies responsible for energy and transportation infrastructure and the environment. While all these groups, along with the small community of bat researchers, are still in the process of building their capacity, their involvement in bat-related activities is growing.

Bat **research** in Norway is carried out by universities as well as independent researchers. The research group BatLabNorway at the Norwegian University of Life Sciences (NMBU) carries out studies of bat-habitat relationships and studies of impacts of human land use, including wind turbines and forestry. Current projects are funded by the Research Council of Norway, the Norwegian Environment Agency, and private sector entities. Research activities carried out by independent researchers include spatial prediction modelling of some bat

species (based on acoustic monitoring), impacts of lighting of church buildings, and single-species studies of e.g., northern bats *Eptesicus nilssonii*.

Local-scale surveys and **monitoring** are conducted annually by the Norwegian Zoological Society (NZF) and individual bat workers and researchers. They employ techniques such as acoustics, hibernacula surveys, and inspection of bat boxes. There is no national-scale monitoring of bats, and currently there is no bat rehabilitation centre in the country.

NMBU, NZF, and individual bat researchers frequently engage in **dissemination and outreach** activities, such as organising bat walks and delivering popular science lectures. These efforts target planners, managers in both the public and private sectors, as well as the general public.

**National guidelines** for pre-construction assessments and post-construction monitoring of **impacts of onshore and offshore wind turbines on bats** have been developed by the NMBU in collaboration with Prof. Fiona Mathews from the University of Sussex, UK, on assignment from NEA. The guidelines were submitted to the NEA in autumn 2023, but they have not been launched and are not yet accessible to the public.

#### **POLAND:**

1. The 30<sup>th</sup> Polish Bat Conference took place in September 2023 in Kozienska Forest. About 100 participants provided 40 presentations on biology and the protection of bats.
2. “Active protection of the western barbastelle in forests” - the project conducted by the Polish Society of Bats Protection includes acoustic monitoring of bats activity and placing 1,200 crevice boxes in twelve forest areas across Poland.
3. The recently started “LIFE+ PODKOWIEC TOWERS” project aims at improving the conservation status of nine endangered bat species in Central and Eastern Europe. It is coordinated by the Polish Society of Wildlife Friends "pro Natura".
4. The Polish Society for Nature Protection 'Salamandra' is implementing the project “PLECOTUS – a comprehensive programme to raise public awareness of ecosystems that provide habitats for bats”. It includes, e.g.,

running a nationwide bat hotline, activities to protect bat colonies in buildings as well as educational campaigns.

## **PORTUGAL:**

The Mammals Red Data Book for mainland Portugal was published in April 2023 ([https://admin.livrovermelhodosmamiferos.pt/wp-content/uploads/LIVRO-VERMELHO-MAMIFEROS\\_WEBv2.pdf](https://admin.livrovermelhodosmamiferos.pt/wp-content/uploads/LIVRO-VERMELHO-MAMIFEROS_WEBv2.pdf)).

The monitoring programme of cave-dwelling species is ongoing, however, a few restrictions regarding disease prevention are still in place (e.g., persons showing symptoms which may be associated with COVID on the 2 days before the visit to the cave must perform a COVID test and can only visit the roost if the result is negative; persons certified for capturing bats must use disposable or disinfected gloves and materials).

Maps of occurrence of all bat species have been prepared for the 2<sup>nd</sup> edition of the European Mammals Atlas.

Compilation of occurrence and monitoring data has been taking place to allow the preparation of the article 17<sup>th</sup> report of Habitats Directive (deadline 31<sup>st</sup> July 2025).

Several educational activities, including International Bat Nights events, have been conducted in mainland Portugal.

In Madeira, the International Bat Night 2023 was celebrated ([Madeira Bat Night 2023](#); [Madeira Bat Night 2023 A](#); [Madeira Bat Night 2023 B](#)).

As part of the LIFE4BEST-ORs 2020-M-13 project "Use of the endangered Madeira pipistrelle as one of the flagship species for the Conservation of the Natura 2000 Network Madeira Laurissilva SAC (PTMAD0001)", developed by the IFCN, IP-RAM, in partnership with the company Madeira Fauna & Flora - Ecoturismo, Biologia e Conservação, Lda (MFF) 15 Magenta Bat4 heterodyne detectors have been acquired, which have recently been transferred from MFF to IFCN, IP-RAM. The aim is to support actions related to bats in the Autonomous Region of Madeira, namely the recording of bat activity by the general public, stimulating citizen science in the conservation of bats (<https://ifcn.madeira.gov.pt/contactos/112-divulgacao/agir/789-ciencia-cidada-morcegos.html>). This recording of bat activity is also intended for IFCN, IP-RAM

employees, some of whom have received training in this area through the "Conservation of Bat Species in Madeira" training course.

LIFE Natura@night project ([Homepage – EN \(spea.pt\)](http://www.spea.pt)) is ongoing. It aims to reduce light pollution that affects the protected areas of the archipelagos of Madeira, Azores, and Canary Islands, and mitigate its impacts on the EU-level protected species, including bats. Regarding this group of mammals, this project intends to update information on the abundance and distribution of 9 species. A bioacoustic and capture method is being used to identify the species and to study their activity.

In the Azores Autonomous Region, the LIFE IP AZORES NATURA project continues, with specific actions towards the Azorean Bat, *Nyctalus azoreum*, (an Azorean endemic species as one of the target species) as well as actions to improve several protected habitats. These actions include acoustic sampling, mist net sampling, roost monitoring and the elaboration of a Regional Action Plan for the conservation of *Nyctalus azoreum*. In the scope of this project, 53 awareness-raising actions have already been conducted, with the involvement of 702 participants.

Every year the International Bat Night is celebrated, normally with field trips to show the general public monitoring methodologies in some Azorean urban areas and protected areas.

In November 2023, *audiomoth* equipment was acquired and acoustic sampling developed in 215 points distributed for all islands. This work is being developed under action C7 - The distribution and conservation of *Nyctalus azoreum*, which will be delivered by the Regional Action Plan for *Nyctalus azoreum* at the end of 2027.

## **ROMANIA:**

The Centre for Bat Research and Conservation, together with the Myotis Bat Conservation Group, have finalised their cross-border bat conservation project with Serbian bat researchers, financed by the Conservation Leadership Programme. Also, together with the Myotis Group, the CBRC is currently implementing a EUROBATS EPI project, jointly with colleagues from the Republic of Moldova, on creating the first online database of bat data in both countries. Connected to this initiative, the Romanian bat expert team has supplied the final dataset to the EMMA 2 / Atlas of European Mammals initiative, with the Romanian

maps relying on over 21,000 individual bat records from over 200 scientific sources. Also, the CBRC is currently implementing the Romanian part of an international LIFE project (LIFE Podkowiec Towers), coordinated by Poland. Romanian activities are taking place in two national parks and are aimed at conserving underground roosts with significant bat colonies. Together with the Bat Caravan, the CBRC has participated at the Făgăraș Fest, where hundreds of people learned about bats and bat conservation in an interactive manner. Several other educational events took place throughout 2023, conducted by the CBRS members and volunteers, and reaching thousands of people. Film-makers have also started coming to Romania specifically for bats. The award-winning documentary production team Crossing the Line (Ireland) has filmed in a super-slow motion *Myotis myotis* specimens hunting for insects, the footage being included in a documentary about the wildlife of Transylvania. At the beginning of 2024, a French documentary team also filmed hibernating bats, but during regular monitoring activities, so without additional disturbance. At the beginning of 2024, the Romanian public chose, through an online vote, the lesser horseshoe bat as the Bat of the year 2024-2025 in Romania.

Wilderness Research and Conservation together with Visul Luanei Foundation have managed to exclude colonies, counting over 3,500 individuals (mostly *Nyctalus noctula*), from buildings in the central and eastern parts of Romania prior to thermal heating insulation projects. The bats were kept in artificial hibernation at the Wildlife Rehabilitation Center in Bucharest and have recently been released, thanks to a collaboration with the Harkiv Bat Group in Ukraine, which helped with information about managing large groups of animals. After years of debates and NGO work, the authorities in Bucharest have been convinced to conduct special studies prior to thermal insulation of residential buildings. Most of these studies have been carried out by Wilderness Research and Consultancy, with NGO experts in this field of work. The results showed 33 colonies at risk of being sealed alive by thermal insulation, but after the study was finished, the authorities continued with the insulation work, ignoring the results. Therefore, Wilderness Research and Consultancy has contracted a counter study named BatWatch (CSR Project), which is currently ongoing. This study will compare the results from the official monitoring activities and will report to relevant local, national, and international authorities, on animals that could have been excluded prior to the construction but were actually impacted.

Also in 2023, a multitude of POIM projects took place in several major protected areas of Romania, within the framework of which the update of the management plans will take place. These projects obtained robust datasets about bats, gathered by contracted bat experts. However, and unfortunately, probably the most diverse bat area in Romania, the Banat region (which is also an important cross border migration area between Romania and Serbia) is currently threatened, as more than 200 wind turbines (in several, smaller, neighbouring windfarms) will soon be built, and these projects do not have to undergo proper impact assessment procedures. Data about the Banat area, about local colonies and about cross-border bat migration has been ignored and ridiculed by the involved companies, that have also not quantified the cumulative effects of these neighbouring windfarms. The future will show the effects of this huge investment on the bat fauna of the Banat region on both sides of the Danube.

### **SERBIA:**

The transboundary project entitled “Transboundary conservation of horseshoe bats in the Romanian-Serbian Iron Gates”, conducted in collaboration with Centre for Bat Research and Conservation from Romania and funded by the Conservation Leadership Programme, was finalised in June 2023. As one of the project outcomes, the first interactive educational corner dedicated to bats in Serbia was established, located within the visitor centre of the Iron Gates National Park in Donji Milanovac. Throughout 2023, monitoring of *Miniopterus schreibersii* colonies and the collection of samples for the detection of Lloviu virus continued, conducted in partnership with colleagues from the National Laboratory of Virology, Szentágothai Research Centre, University of Pécs, Hungary.

The International Bat Night was organised by the Natural History Museum in Belgrade and the Institute for Biological Research "Siniša Stanković" (IBISS). It was held in Belgrade during September 2023, drawing the participation of over 500 attendees. In completion of these activities, biology students organised "Bat Walks" in Novi Sad. Additionally, the outreach efforts extended to the media engagement, including newspaper features and radio appearances, along with several presentations delivered in schools to raise public awareness concerning bats.

In February 2024, the regular winter monitoring of hibernation sites was conducted, leading to the discovery of a new, and to date largest hibernaculum of *Barbastella barbastellus* in Serbia, potentially representing the largest such site



within the region. This hibernaculum, comprising nearly 500 individuals, was found inside an abandoned rail tunnel located in Eastern Serbia. This site must be monitored regularly in the upcoming seasons.

In early 2024, a collaboration with the authorities of the Deliblato Sands Special Natural Reserve was initiated to repair the roof of an abandoned building hosting the most significant maternity colony of *Rhinolophus ferrumequinum* and *Myotis emarginatus* in the Banat region of Serbia. The authorities demonstrated considerable support and willingness to allocate funds for this endeavour. Additionally, other funding to further safeguard this roost will be sought.

### **SLOVENIA:**

In the last year, the final report of the [Slovenian state bat monitoring 2020–2023](#) was published. It sums up the estimations of the state of conservation of each bat species present in Slovenia, including estimations of the conservational status of their populations (presented are trends for 13 out of 32 resident bat species), distributional range, and the state of their habitats. Similar to the previous years, most of the recorded pressure was on the bat roosts in buildings. The most alarming was a decrease in available *Myotis myotis* maternity roosts, where 22 percent of the summer maternity population (adult animals) lost its roosts in the years 2021–2023.

In the LIFE Integrated Project for Enhanced Management of Natura 2000 in Slovenia (2019–2026) – LIFE-IP NATURA.SI, until now almost 250 buildings of cultural heritage have been surveyed and estimated for additional workload bat guano is causing to the managers and possible technical solutions to lessen the load. Within LIFE-IP NATURA.SI, twelve important bat roosts have been improved to lessen managers' workload with cleaning of bat guano in the future, and sixteen within the projects PIVKA.KRAS.PRESIHA and POHORKA, financed by Cohesion Fund. Natura 2000 Management Programme 2023-2028 (PUN) has been finalised and adopted by the Government. PUN measures for bats have been harmonised also with the Ministry of Culture. During the harmonisation process, a collaboration between bat conservation and conservation of cultural heritage resulted in increased number of joint meetings and field workshops on the conservation of bat roost in the cultural heritage buildings for employees of the Institute of the Republic of Slovenia for Nature Conservation and the Public Institute of the Republic of Slovenia for the Protection of Cultural Heritage.

Several students and pupils' research camps were held in 2023, where also bat research groups were active. Members of the SDPVN – Slovenian Association for Bat Research and Conservation – have also conducted several field research and PR actions, the biggest being the International Bat Night.

## **SWEDEN:**

In Sweden, bat investigations are conducted at three different levels: within the environmental authorities, by the NGO BatLife Sweden, and as research at the universities.

The authorities (the Swedish Environmental Protection Agency and the County Administration, the Swedish Species Information Centre) focus mainly on:

- Reporting to EU according to the article 17 within the Habitats Directive;
- New updated version of the Swedish red-list;
- Continuation of the Swedish monitoring programme. There is national and regional monitoring at about 70 permanent sites, surveyed twice a year during summer. In cooperation with BatLife Sweden, eight permanent sites are also being monitored, collecting data throughout whole year.
- Continuation of the citizen-science reporting system and validation. To make this system reliable, a validation group has been formed with 20 bat experts reviewing recordings and other observations.
- Giving advice concerning bat conservation in combination with exploitation, forestry, etc.
- A bat specialist group with representatives from the County Administration, the Swedish Biodiversity Centre, and the Swedish Species Information Centre has been formed to support the authorities with advice in monitoring programmes and in validation of bat observations.
- A special programme for the rarest species which are difficult to cover in ordinary monitoring programmes (*Pipistrellus pipistrellus*, *Myotis bechsteinii*, *Nyctalus leisleri*).

The NGO BatLife Sweden focuses mainly on (see also separate report):

- Education, e.g. species identification based on sound and morphology, trapping and handling of bats, and in survey methods;

- Conferences. Last year two conferences were arranged. One summer conference with field excursions, and one winter conference with presentations and workshops, with about 140 participants.
- Advice related to impact assessment;
- Local activities and excursions to raise bat awareness;
- Development of bat surveys;
- International cooperation, e.g. with BatLife Europe;

The bat research in Sweden (Swedish University of Agricultural Sciences, Stockholm University) focuses mainly on:

- Studies of the effect of land-use change on bats, particularly in relation to forestry;
- Metabarcoding studies investigating bat diet;
- Morphological change in bats due to climate and land-use change;
- Effects of light pollution and skyglow on bats;
- Studies on the autumn activity of *Vespertilio murinus*;
- Environmental pollution (mercury methylation and pesticides);
- Mitigation in infrastructure projects to increase connectivity;
- Effects of wind-power on bats;
- Bat viruses;
- The research is supported by the Transportation Agency, the Energy Agency, the Swedish Environmental Protection Agency, WWF, and the Swedish Research Council (Formas).

### **SWITZERLAND:**

The following report only lists the activities that have been carried out at the national level, and mainly relate to national strategies and support offered to the regional sections in charge of protection.

After having functioned, for several decades, with a West and an East centre, bat protection in Switzerland is moving towards a unified, national centre.

The national collaboration is exemplified in the selection of the projects below:

## Development of services, recommendations, and tools for bat protection

- A GIS layer has been published on a national server with all known roosts (overground and underground) classified according to their **importance (national, regional, and local)**. This layer is mainly available to the public authorities. The information is also forwarded when data is requested for projects led by environmental firms or research institutes.
- Another GIS layer, on the national server but also open for download, has been finalised with models of flight corridors around a selection of roosts of national importance.
- Every 5 years, the Swiss government renews its contracts with the local authorities (cantons) to support environment protection. In this fundamental process, advice has been given to each canton on its **responsibility for the protection of the bat species present on its territory**. This information is then used by the local authorities to plan their protection plans for the coming years.
- A list of **wood treatment products**, deemed acceptable for bats, was published in 2023. Its content is planned to be regularly updated with new products or new information on the molecules.
- The precision, quality, and circulation of data collected on the field is of great importance to influence environmental policies and advise on applied solutions to protect bats and their habitats. A project to **improve and simplify bat data flow** at the national level was launched in 2023.

## Operations and public relations

- A **sequencing service** has been offered nationwide to genetically identify the species of undefined roosts (based on guano samples). This service helps improve roost protection and data quality in the national databases.
- Protocols to **protect breeding roosts** of some national priority species have been adopted nationwide. By being visited regularly, the roosts' protection is improved, and the data gathered help monitor the populations.
- **Courses and workshops** addressing different audiences have also been offered: basic courses (for beginners) and specialized courses (e.g. bat handling, bat rehabilitation, public relations, excursions, school workshops or forest management).

- **International Bat Night** events have been organised: more than 2,900 persons took part in 26 events nationwide.
- **National TV broadcast** has included an episode of the “VIVANTS” show, addressing a wide range of topics linked to bats, has been broadcasted on national TV.

## UKRAINE:

Catastrophic environmental impact of the Russian invasion on the nature in Ukraine has been stressed. This includes various types of pollution, soil contamination, direct devastating impacts on biodiversity, including bats, their habitats and roosts, both natural and artificial.

According to observations made during one war year (in 2022), in eastern Ukraine, namely Kharkiv (the city that has been relentlessly shelled by the Russian federation since the first days of the war), about half of the buildings that served as hibernacula for *Nyctalus noctula* colonies have either been damaged or completely destroyed (which may have led to the direct killing of ca. 7,000 bats). Damaged buildings have also been found to become deadly traps for bats, particularly during migrations: Bats fly into the buildings and are unable to leave without assistance ([Vlaschenko et al., 2023](#)). Additionally, direct killing of bats in the attacks has been documented not only in eastern Ukraine (which suffers most under war hostilities), but also in more remote regions. In 2024, the Russian UAV destroyed a building in western Ukraine which housed a winter colony of *N. noctula*. Volunteers collected dozens of dead or severely injured bats from the rubble (Kyiv and Khmenytskyi Bat Groups, pers. comm.).

One third of the territory of the Nature Protection Fund of Ukraine, with an area of over 1.2 million hectares, and 160 Emerald Network sites (about 2.9 million hectares), as well as 17 wetlands of international importance (Ramsar sites) have directly been affected by the war hostilities:

(<https://mepr.gov.ua/news/39062.html>; <https://uwecworkgroup.info/emerald-network-in-ukraine/>, <https://wwf.ua/?12163316/The-impact-of-war-on-protected-areas-in-Ukraine>). The effects include not only the loss or damage of natural habitats and their complexes, but also the destruction of conservation and administrative infrastructure, the loss of scientific and monitoring archives, persecution of reserve staff ([Timmins et al., 2023](#); <https://uncg.org.ua/dopomoga-organizaczij>).

The recent assessment shows dramatic impact of the war on the forest habitats, both protected and cultural. Most of all, this concerns forests in the regions occupied by the Russian federation or located in the zone of active warfare due to fires and logging (e. g. [Irland et al., 2023](#); [Matsala et al., 2024](#)).

Despite the war there have been some developments in biodiversity conservation which are also relevant to bats, namely:

- Draft procedure for monitoring of biological and landscape diversity has been developed and submitted to the Cabinet of Ministers of Ukraine for adoption. Bats are specifically mentioned there among the species to be monitored;
- GEF project “Global Biodiversity Framework Early Action Support” has been launched in Ukraine aiming at developing or updating the National Biodiversity Strategy and an Action Plan (NBSAP) according to Kunming-Montreal Global Biodiversity Framework approved at the 15th Meeting of the Conference of the Parties to CBD held in December 2022 in Montreal.

## **UNITED KINGDOM:**

### **1. Species Trend Information**

The status of the UK’s bat species is monitored under the National Bat Monitoring Programme (NBMP). The programme is carried out by the Bat Conservation Trust (BCT) on behalf of the Joint Nature Conservation Committee (JNCC) and is supported and steered by the UK’s Statutory Nature Conservation Bodies (SNCB). NBMP trend data for 2023 will be available at this site in May 2024- [NBMP Annual Report - Reports - Bat Conservation Trust \(bats.org.uk\)](#).

Trend analysis of the data on the most abundant species in Jersey, the common Pipistrelle, *Pipistrellus pipistrellus*, shows a steady increase in their activity - [iBats Jersey: analysis of 10 years of monitoring data](#). Although this increased trend may indicate some level of population recovery, other factors may be responsible for the increased bat activity along their transect routes. Further spatial analysis of the transect route data and static monitoring data is underway and will be reported later this year.

### **2. Legislation and Policy**

Hedgerows are an extremely important habitat feature for bats as they provide food, shelter, and valuable landmarks for their orientation. In England, agri-

environment schemes have provided a significant source of funding for habitat creation and management of threatened species. As well as the government's Countryside Stewardship and Sustainable Farming Incentive schemes, which are funding the creation and restoration of hedgerows, the Environmental Improvement Plan (2023) has a commitment to support farmers to create or restore at least 30,000 miles of hedgerows by 2037, increasing to 45,000 miles by 2050. Progress reports on the 25 Year Environment Plan are available at this link: [25 Year Environment Plan: progress reports - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/collections/25-year-environment-plan-progress-reports). The report for the year March 2023 to April 2024 will be published on this site later this year.

All bat species and their roost sites are legally protected in Gibraltar under the Nature Protection Act 1991, as amended. The Act includes the transposed European Union's Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as the Habitats Directive. Most new developments and major refurbishments in Gibraltar contain Planning Conditions imposed by the Department of the Environment requiring bat surveys and/or the installation of bat boxes or integrated roosting spaces, where appropriate. The Minister for the Environment, after consulting the Gibraltar Nature Conservancy Council, has powers under the above-named Act to issue licences to bat researchers to handle, care for, trap, tag, and ring bats among other things. As of April 2024, there are seven people (belonging to the Gibraltar National Museum and the Gibraltar Ornithological and Natural History Society) at different levels of the licence system who are legally endorsed to work with bats in Gibraltar.

### **3. Bat Related Projects**

In England, Natural England (NE) has commissioned the BCT and the Vincent Wildlife Trust (VWT) to undertake a national survey for Barbastelle and Bechstein's bats. The project, running to 2027, aims to increase the accuracy of the known species range for these bats, and allow habitats to be more accurately assessed for species suitability. NE has also commissioned the BCT (working in partnership with the University of West England and the University of Stirling) to undertake a literature and evidence review to 'Assess the migration of bat species and interactions with offshore windfarms in British waters'. The report is due in April 2024.

The Natur am Byth partnership is Wales' flagship Green Recovery project ([Natural Resources Wales / Natur am byth! Saving Wales' threatened species](#)). It unites nine environmental charities with Natural Resources Wales (NRW) to deliver the country's largest natural heritage and outreach programme to save species from extinction and reconnect people to nature. Among the species which will receive particular focus are Lesser Horseshoe and Barbastelle bats. VWT led project work on Barbastelle bats is available at this link: [Natur am Byth! Barbastelles in Pembrokeshire – The Vincent Wildlife Trust \(vwt.org.uk\)](#). BCT led work on Lesser Horseshoe bats is to be found here: [Natur am Byth - In Wales - Bat Conservation Trust \(bats.org.uk\)](#)

Also in Wales, the Gobaith Coetir / Woodland Hope project ([Gobaith Coetir / Woodland Hope - In Wales - Bat Conservation Trust \(bats.org.uk\)](#)), runs until March 2025. The project is researching the health of the Celtic rainforest site of Meirionnydd Oakwoods and includes the study of the bat species present, to include the Lesser Horseshoe bat, as health bioindicators. Wales is a very important stronghold for the latter species, accounting for 61 percent of the total UK population, with several of their roosts and foraging habitats protected within the site.

In Scotland, NatureScot continues to support the Scottish Bat Project run by the BCT ([The Scottish Bat Project - In Scotland - Bat Conservation Trust \(bats.org.uk\)](#)). The focus for 2023 was on supporting surveillance of *Pipistrellus nathusii* in Scotland to help clarify the species' status. The other major project involving bats is Species on the Edge - [Species on the Edge | NatureScot](#). Among the nine key projects that comprise Species on the Edge project, one has a specific focus on island populations of *Pipistrellus pipistrellus*, *P. pygmaeus*, *Plecotus auritus*, and *Myotis daubentonii*.

A Channel Islands Bat Forum has been established in Jersey to improve collaboration and standardise design of bat monitoring schemes. The first meeting and workshop, held in March 2023, was attended by participants from government, an ecological consultancy, volunteer bat groups and research organisations from the Channel Islands; and other organisations to include BCT, the British Trust for Ornithology, and Muséum National d'Histoire Naturelle. Events included:

- Presentations on bat monitoring schemes, acoustic pipelines and classifiers;



- A discussion on a Passive Acoustic Monitoring Scheme for the Channel Islands;
- Publicity of the Roostwatch JE citizen science scheme to encourage homeowners to look for and report signs of bat roosts - [RoostWatch | Jersey Biodiversity Centre](#). This scheme has led to the possible discovery of a Serotine roost which will be monitored this year.

Additional bat related projects in Jersey include:

- Under the National Bat Monitoring Scheme, BCT are continuing their hibernation counts at two project sites in Jersey. Visual counts are supplemented with acoustic recordings.
- Jersey Bat Group continued their woodland bat box project and long-term acoustic monitoring of two woodland edge sites. A few advanced survey sessions were undertaken by the group in late summer 2023.
- The Jersey Grey Long-eared Bat (GLEB) Project is a research project undertaken by a local ecological consultancy. The project is monitoring GLEB maternity roosts and developing guidance on roost mitigation for GLEB related activities.

2023 saw the completion of the third year of the four-year Bailiwick Bat Survey (BBS) project. The project is documenting the distribution and activity of the different bat species that occur in Guernsey, Herm, Alderney, and Sark. Using a citizen science-based approach, over 200 volunteers chose one or more 500 x 500m squares to survey using passive real-time bat detectors. In the three years of surveying, 13 bat species have been confirmed on the audible detectors. The project has enabled a better understanding of the status and distribution of bats across the islands. The annual reports include a species by-species breakdown of spatial, seasonal, and through-the-night patterns of activity. The latest report can be found at this link: [Reports \(bats.org.gg\)](#).

The Gib-Bats project was established in 2013 and aims to carry out research on the bats of Gibraltar in order to advise HM Government of Gibraltar and assist conservation efforts, as well as create awareness at the national and international level. Transboundary research is also being carried out by tracking the movements of cave-dwelling bats ringed in Gibraltar and Spain to better understand their network of roost sites across both countries, with hopes of

including Morocco next. The current list of bat species occurring in Gibraltar can be found at: <https://www.gonhs.org/wildlife/fauna/mammalia>.

#### **4. Guidance and Research**

Under the Defining Favourable Conservation Status (FCS) project, NE has provided new definitions for the Bechstein's, Greater Horseshoe, and Barbastelle bats. FCS definitions describe an England scale ambition for habitats and species and provide context for decision making and actions to achieve and sustain thriving wildlife. See [Natural England Access to Evidence - Defining Favourable Conservation Status](#)

The UK's SNCBs have provided input to BCT's 4<sup>th</sup> edition of Bat Surveys for Professional Ecologists: Good Practice Guidelines. [Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th edition - Guidance for professionals - Bat Conservation Trust](#).

In early 2023, a series of guidance notes relevant to four main species groups were published in Jersey under the Wildlife (Jersey) Law 2021. The [Wildlife law Level 1 Bat Guidance.pdf \(gov.je\)](#) provides an interpretation of what is considered to constitute a bat's breeding site or resting site in Jersey, and outlines what actions might damage or destroy such breeding/resting sites or constitute disturbance of bats under the Law. In October 2023, Jersey Heritage, supported by the Government of Jersey, published an Advisory Note on the Retrofit of Historic Buildings in Jersey [Retrofit-of-Historic-Buildings-A4-speads-low-res.pdf \(jerseyheritage.org\)](#). This advisory note recognises that bats and their habitat are part of the heritage value of a building, are protected by law and that, therefore, the impact of retrofit measures on biodiversity should be a key consideration when carrying out works to historic buildings.

#### **NON-PARTY RANGE STATES**

##### **AZERBAIJAN:**

Since AC27, no progress on the ratification of the EUROBATS Agreement by the Azerbaijani Government has been made. A special request letter on behalf of the NGO "Biodiversity of Azerbaijan" has been submitted to the Foreign Policy Advisor to the President of Azerbaijan, underlining the necessity of UNEP/EUROBATS ratification and with a kind request for support in this matter through

influencing the relevant ministries. Currently, the focus is on the Convention on the Conservation of Migratory Species of Wild Animals (CMS) rather than the EUROBATS Agreement and it is being considered as the key step to proceed further. This process is ongoing.

From the studies perspective – in March 2024 bat acoustic surveys within ESIA baseline data collation within the scope of proposed wind turbines construction in Gobustan region of Azerbaijan have started.

The 3<sup>rd</sup> edition of the National Red Data Book was completed and published in April 2023. It includes 10 bat species, whereas the 1<sup>st</sup> edition had three and the second 12 (2013).

A number of new hibernation sites as well and summer roosts for four bat species have been revealed over the period of 2023-2024. In the previous years, analogical data were used for cadaster maps on bat localities within the project named “Beyond species”. The project was conducted in cooperation with the Berlin Museum für Naturkunde and the results are still to be published.

#### **BELARUS:**

Since the last AC meeting preparations have been made for a new edition of the Red Data Book of Belarus. It is planned that 9 species of bats should be included in it, taking into account *Nyctalus lasiopterus*, the habitat and reproduction of which have been reliably confirmed.

Phylogenetic analysis carried out as part of the international project “Past and present expansion of model vertebrate species under climate change in Eastern Europe and the South Caucasus” (Belarus-Armenia) has established that the Kuhl's pipistrelle recorded in Belarus belongs to the *Eastern form (Pipistrellus kuhlii lepidus)*.

As part of the preparation of the 2nd edition of the Atlas of European Mammals (EMMA 2), a dataset has been prepared and presented containing information on the species composition and distribution of bats in Belarus.

The Belarusian Bat Rehabilitation Centre «Kazhanapolis» has continued its work. In addition, the usual popularisation activities have been carried out, such as International Bat Night events and popular bat-lectures, interviews in the media, etc.

Unfortunately, there is not much progress in the ratification of the EUROBATS Agreement by Belarus.

## **MOROCCO:**

Among the thirty bat species in Morocco, at least eighteen are within the range of European bats. Moroccan interest in bats continues as planned. Current research on the Moroccan bats is focusing on their ecology and distribution, including some master's theses.

There is also an important partnership program between mammal NGOs and speleologists for the conservation of cave biodiversity. Bats are present in all conferences and activities of Moroccan speleologist.

Considering the increased expansion of wind turbine projects in Morocco, it is mandatory to follow EUROBATS guidelines. Monitoring of bat mortality in wind farms during the operational phase is now becoming unavoidable.

Further studies are required to update the bat fauna of Morocco, in addition to the urgently required effort for public/schools and policymakers' awareness raising.

## **OBSERVERS**

### **Geonatura - Consultancy in Nature Protection, Croatia:**

Geonatura has specialised in consultancy services for nature protection and, among others, it includes a bat research group which conducted more than 70 different projects concerning bat fauna baseline surveys and monitoring in the last 11 years. Since the last report, Geonatura has been working together with its associates for the Croatian Ministry of Economy and Sustainable Development to develop a proposal of national bat monitoring programme and collect new data for bat species to report under Article 17 of the Habitats Directive. Monitoring methods included roost surveys, mist netting near freshwater bodies, bat activity monitoring using ultrasound detectors and other methods. The project included collection and validation of literature data as well as extensive field surveys with 2,161 observations at a total of 386 locations collected from January 2022 to July 2023 (318 site visits at 138 underground roost sites, 164 site visits at 129 overground roost sites, 61 site visits at 55 mist netting and acoustic monitoring

locations, six locations with continuous acoustic monitoring). The national bat monitoring programme was finalized in September 2023 along with additional reports on field research results and validation of collected literature data. Detailed description of monitoring methods and their valorisation for each bat species was included. General field forms for each monitoring method were prepared as well as specialised field forms for each underground and overground roost site. Six educational workshops for stakeholders were organised across Croatia. Collected data were organised, validated, and processed for the purposes of assessing the parameters for each bat species conservation status. There is still a lack of data for detailed assessments but, considering the observed pressures and threats, most bat species are still considered to be in unknown or unfavourable conservation status. Many overground roost sites have been shown to be in a very poor state of preservation.

#### **Association for Bat Conservation Tragus, Croatia:**

Tragus has continued monitoring bat fauna in Vrlovka cave (regularly monitored since 2017) and protected nature area cape Kamenjak (regularly monitored since 2019), both Natura 2000 sites designated for bats. Tragus is also implementing bat monitoring as part of a new highway construction passing through a Natura 2000 site important for bats (Zagorska peć cave) in western Croatia. It is for the first-time that a road construction is being monitored in Croatia with the application of DEFRA guidelines. Tragus continues supporting International Bat Night events, including the events in the National Park Brijuni, cape Kamenjak, and in Krapina. These events are organised by the public institutions responsible for the protected areas and Tragus members provide guided tours with bat-detectors, presentations of other bat research methods, and take part in creative activities for children. The association also keeps providing expert support and information on numerous mails and calls from citizens.

Supernatural Ltd., the partnering company, has been involved in eight pre-construction environmental studies for wind farms in Croatia, Slovenia, and Bosnia and Herzegovina, as well as post-construction monitoring at three wind farm locations. Additionally, bat research studies for solar power plants development have been provided. Supernatural Ltd. was a co-organizer of the 7<sup>th</sup> Conference on Wind Energy and Wildlife Impacts, which proved to be a success in terms of topics and projects presented that were related to bat research and monitoring all over the world. Members of the EUROBATS IWG were actively

involved in the conference. As a response to the new EU regulations, Croatian competent authority for the environment and nature protection has started developing sensitivity maps regarding renewable energy projects (wind and solar) and the association's team provides data analysis, sets up the methodology, and leads topics regarding bats.

**Muséum National d'Histoire Naturelle / National Museum of Natural History, France:**

The bat team of the CESCO laboratory at the French National Museum of Natural History is specialised in research in bat ecology and conservation. Publications from 2023 concern notably (1) the characterisation of bat diel activity patterns to design conservation measures (Mariton et al., 2023) and (2) the investigation of the acoustic activity of bats at power lines (Froidevaux et al., 2023). A new PhD thesis has started investigating the consequences of wind turbine mortalities on bat populations. The offshore monitoring programme of bat activity in the Atlantic provided new insights about potential corridors taken by the *Nathusius Pipistrelle* in the English Channel. The French citizen science program for the acoustic monitoring of bat populations, Vigie-Chiro, is ongoing. The coordination of the training for bat captures is also ongoing. In 2023, sessions were organised to train bat workers for bat capture in the overseas islands of La Martinique and La Guadeloupe. A survey was circulated to understand the practices of the French community during capture to prevent the spreading of SARS-CoV-2 to bats. The Museum further continues to coordinate the project "Bat migration routes in Europe", which now counts more than 80 collaborators from 29 different countries.

**Société française pour l'étude et la protection des mammifères / French Mammal Society (SFEPM):**

The French mammal society (SFEPM) is a national organisation for the study and protection of mammals uniting 23 local bat groups all over France, including overseas. The work to produce the atlas of French mammals is being coordinated by the SFEPM. The atlas will notably include maps of bat roosts in France, which represent a significant achievement. The work on mapping the hibernation roosts of 27 species and species groups is being finalised and the update of the developed methodology will allow to prioritise roosts protection at the national scale.

The work of the National Coordination for Bats is making progress, especially owing to the national working groups that are very active and gain importance (e.g. isolation works, Noctules...). Knowledge about the three Noctule species has significantly increased over the last couple of years due to a particular focus on these species.

The trans-regional project to study *Miniopterus schreibersii* populations is ongoing and an application to receive funding has been sent in order to finance a position in charge of writing an application for a LIFE project. A new trans-regional project has also emerged to study the European free-tailed bats and gather more information about their basic biology. The organisation of 348 International Bat Night events has been reported on the dedicated website.

A symposium about bats and forestry management has taken place, engaging national audience (co-organised by SFPEM, FCEN, ONF, CNPF and Azimut230). In 2023, regional bat meetings took place all over France (“Great South”, “Great West” and “Grand East”).

#### **Leibniz Institute for Zoo and Wildlife Research (IZW), Germany:**

Over the past year, IZW has continued its research on migratory bats in collaboration with Prof. Gunārs Pētersons from Latvia and particularly on offshore bat migration with NABU Mecklenburg-Vorpommern, a project financed by the German Federal Agency for Nature Conservation.

IZW has started a project on the efficacy of replacement roosts during insulation measures, which is also funded by the German Federal Agency for Nature Conservation. As part of this, the IZW has organized an online conference (3<sup>rd</sup> IBROS) on ‘Replacement roosts for bats at buildings’ with about 570 registered participants. Furthermore, Leibniz-IZW has launched an online questionnaire on this matter.

The institute has offered training workshops on light pollution and bat conservation in English and German and a one-day workshop on evidence-based wildlife management.

Lastly, Leibniz-IZW and Bat Conservation International organised a side-event during the 14<sup>th</sup> Conference of the Parties (CoP14) to the Convention on the Conservation of Migratory Species of Wild Animals (CMS) on “Best practices for minimizing bat fatalities at wind energy facilities”. Leibniz-IZW became a member of the Energy Task Force of the CMS agreement.

### **Luísa Rodrigues, Senior Advisor, Portugal:**

The celebration for the 36<sup>th</sup> Anniversary of Bat Protection and Monitoring in mainland Portugal was held on April 21, 2023.

Various merchandise items are now available for purchase, with all income dedicated to covering expenses related to volunteer monitoring efforts. Additionally, funds may be allocated to support small-scale projects focused on bat conservation. Orders can be placed by contacting [educacao.sensibilizacao@gmail.com](mailto:educacao.sensibilizacao@gmail.com).

A new NGO dedicated to bat conservation, Morcegos.PT, has recently been established. The organisation has been actively involved in Impact Environment Assessments and public awareness initiatives and has already become a member of Mammal Conservation Europe. Furthermore, the National Bat Conference, known as the III Jornadas Quiropterianas, is scheduled to take place on May 11<sup>th</sup> in Mafra, mainland Portugal.

### **Spanish Bat Society (SECEMU):**

Regarding the Spanish accession to the EUROBATS agreement, the relevant ministry is still in the process of officially signing the agreement and will directly contact the EUROBATS secretariat to implement it.

Following tasks undertaken by SECEMU during the period 2023/2024 should be highlighted:

- The next European Bat Research Symposium (EBRS) will be hosted in Tarragona (Catalonia) during the summer of 2024 (2-6 September). Registration is open at the following website [www.ebrs2024.com](http://www.ebrs2024.com). Abstract submission is open until the 10<sup>th</sup> of May. Plenary talks will be held by Dr. Dina Dechman, Dr. Orly Rasgour, Dr. Vanessa Mata, and Dr. Winfred Frick.
- The Atlas of the Spanish Bats officially started in 2023 and is being implemented across all regions, sampling 10 percent of all the country grid zones. It will last until 2025 and will represent the first systematic bat assessment across the country for future studies and research (e.g. population trends).
- At the end of 2023, all available data was sent to the EMMA coordinators to be included at the country level.



- In terms of banding, there has been a large effort to compile old data from the 70s, adding more than 47,000 marked animals and 12,000 recaptures to the organisation dataset.
- A new project called MITERD has started, funded by the Ministry of Science and Environment, aiming to assess bat richness and activity in several wind farms as well as assess carcasses' permanence in the surrounding habitats. Several allegations have been officially made to the Ministry regarding EIAs in wind farms. In parallel, the wind farms' working group of the Spanish Bat Society has collaborated on a book regarding wind farms' impact on biodiversity. An online meeting focused on bats and wind farms will take place in the spring of 2024.
- The *Journal of Bat Research & Conservation*, edited by the Spanish Bat Society, published its 16<sup>th</sup> issue (2023) with a total of seven new manuscripts from several countries across the globe. SECEMU highly encourages all of the delegates to use it to disseminate their studies and actively contribute to the journal: <https://secemu.org/en/journal/>.
- A new internal working group has been established to compile a national bat call library.
- The working group of photovoltaic energy has published online guidelines for implementing EIAs in future photovoltaic energy facilities or projects.
- Regarding the educational initiatives, multiple 'bat-night' events and many other activities have been organised across the country, either coordinated by SECEMU or by local groups. The society's website has been updated and is open to include new information, footage or news provided by any member (<https://secemu.org/>).
- The online tool ([www.batmonitoring.org](http://www.batmonitoring.org)) to store and handle bat research data and monitoring counts has been widely improved. The tool has been designed to be appropriate and efficient in all the countries included in the EUROBATS Agreement and is currently fully functional and operational. The services include the repository for data from capture sessions, roost counts, both under and overground, passive acoustic monitoring, bat box inspections and waterway surveys.
- Many other scientific projects from independent research teams are being conducted, from establishing monitoring programmes using Citizen

Science, to specific marking projects of forest-dwelling species like *Nyctalus lasiopterus*, etc. If more specific information is required, please contact the SECEMU secretariat by email.

### **BatLife Sweden:**

BatLife Sweden is a non-profit organisation consisting now of 310 members. Its purpose is to increase interest and spread knowledge about bats and to contribute to their conservation. As in the previous years, the majority of the work in BatLife Sweden is carried out by volunteers in eight working groups: Swedish Observations group, Taxonomy and Morphology group, Species Monitoring group, Bat Box group, Inventory group, Swedish Bat Conference group, International Collaboration group and Local Activities group.

During 2023, several Zoom courses in bat morphology, identification and sound analysis were organised both for beginners and for more advanced members. These courses attracted a large number of new members. The association also organised other courses during the year, such as a bat handling course for professionals and a series of workshops in R programming language. Furthermore, the association organised a summer workshop focusing on sharing knowledge of and practicing different acoustic survey techniques. BatLife Sweden also had its annual bat conference in Jönköping (the Swedish Bat Conference), the third in the series. It ran over three days in November 2023, with around 40 lectures (in Swedish and English) and 150 attendees from all over Europe with plenary lectures from Finland, Norway, Denmark, Poland, and Germany. The 2024 conference is now being planned and will be held in southern Sweden in November 2024.

During 2023, BatLife Sweden continued working with the Swedish Bat Monitoring Network. Long-term monitoring of bats was carried out at eight stations. The association continues to employ a project manager for the station at Ottenby.

BatLife Sweden also continued to engage with international projects during 2023. This included several volunteers from the association participating in the Swedish-Finnish project Kvarken bats, which is focused on studying the migration routes of *Pipistrellus nathusii* in the northern Baltic Sea.

## **Bat Conservation Trust (BCT), United Kingdom:**

Since the last AC, BCT has continued to expand its use of passive acoustic monitoring. The trust ran the second year of the new British Bat Survey (BBatS), which is a structured survey designed to improve population trend estimation for species where data is lacking from the current National Bat Monitoring Programme. BCT reached the third year of its Nightwatch project, which is a community science project aiming to engage people with nature, particularly those from an urban environment. The co-designed resources for communities video could be seen at: <https://www.bats.org.uk/resources/nightwatch>. The trust has also increased its monitoring of forests and woodland.

All of these projects are underpinned by BCT's Sound Classification System which automates the processing of large volumes of sound recordings. Improvements made this year are allowing for the data to be processed more quickly and smoothly.

As mentioned in the UK report, BCT is working with VWT, University of Exeter and University of Sussex on the development of a national barbastelle and Bechstein's bat survey. The trust has also been working with Dr. Joanne Littlefair and NatureMetrics to develop airborne DNA survey approaches in enclosed (e.g. churches/hibernacula) and unenclosed (e.g. woodland) settings.

A new project called Connecting People and Landscapes in a Changing Climate started in October 2023. It is currently in the 18-month development phase and will be focused on bringing together farmers and communities across Devon to create a more resilient landscape in the face of a changing climate. Another strand of the project will look at the potential impacts of climate change on one of woodland bats, the Bechstein's bat.

BCT has published two new sets of guidance since the last AC – one on Artificial Lighting and the fourth edition of Bat Surveys for Professional Ecologists: Good Practice Guidelines was published in Autumn 2023. This is available here: <https://www.bats.org.uk/news/2023/09/bat-surveys-for--ecologists-good-practice-guidelines-4th-edition-launched>.

Two more sets of guidance are in development: Bat Surveys on Large-Scale Maintenance Projects and Using Night Vision Aids in Bat Surveys.

## **BatLife Europe:**

Since the last AC meeting, BatLife Europe has continued to develop its three-year strategy which will be completed during 2024. During summer 2023 its partner organisations voted for the BatLife Bat of the Year 2024 and greater mouse-eared bat, *Myotis myotis*, was the winner. BatLife Europe has produced a species factsheet that is now available to download on Research Gate. Soon there will also be infographics available to share with partners and distribute on the social media. BatLife Europe also continues to develop its social media presence and provides updates to its partners via the website and its monthly partner emails. In 2023 a webinar series with webinars on Bat of the Year *Myotis myotis* was launched by Dr. Andreas Zahn and Bats and climate change by Prof. Danilo Russo.

One of its trustees, Mr. Markus Melber, also provided an update webinar on the Noctule Project. The Noctule project is a citizen science project BatLife Europe launched last autumn to monitor common noctules in autumn. This project will continue in 2024 and is now partnering with the Bat Migration Routes in Europe project. The association is also reinvigorating the European Bat Indicator project and hopes to start work on producing a publication based on the data previously collected.

In terms of collaboration, three of the trustees attended the GBatNet meeting in Baltimore in 2023 and one trustee will also attend this year's meeting in Houston. The primary aim of these meetings is to learn how to create and implement strategic plans for NGOs and to network and collaborate with other bat NGOs. BatLife Europe is now also a member of both Mammal Conservation Europe and the European Habitats Forum.

## **5. Secretariat report**

Mr. Streit explained that there were no changes in the Secretariat staff. One, though, was imminent, however, not immediately but within the following months. The process for the recruitment of Mr. Streit's successor had already begun and had kept the Executive Secretary very busy in the past few months.

Regarding the accession of new Parties to the Agreement, Mr. Streit informed the delegates that there was still no news from Spain.

In terms of outreach activities, Mr. Streit mentioned that EUROBATS Publication Series continued to be best sellers. He expressed his hope that the Secretariat would soon obtain the funds to publish the guidelines that had already been

finalised. Referring to EPI projects, Mr. Streit pointed out that the summaries of the projects conducted in the past year were available in greater detail in the written report.

Ms. Petermann thanked the Executive Secretary for the report. She mentioned that it was not surprising to hear the Publication Series were a success, since most of them were a product of the work of the Advisory Committee. This was somewhat also one of the purposes of this meeting, for which she hoped would be a success despite the challenges the online format was bringing with it.

## **6. Reports from Intersessional Working Groups on their activities since the last AC meeting**

The convenor of the IWG on **Anthropogenic Deadly Traps for Bats**, Dr. Andrzej Kepel, reported that the IWG had made some progress since the last AC meeting. The main aim was to prepare a form for submission of examples of existing deadly traps for bats <https://forms.gle/2jkWTDEDw5SERuJk9>. In the PDF-version of the form comments could be made not only by the members of the IWG but by all interested delegates: [https://drive.google.com/file/d/1XoA9ht-PtkuWw\\_ea5XWaptvLf7h52o2K/view?usp=drive\\_link](https://drive.google.com/file/d/1XoA9ht-PtkuWw_ea5XWaptvLf7h52o2K/view?usp=drive_link). Furthermore, the convenor also provided the link to the first test entry of a trap and would appreciate comments on this document as well:

[https://docs.google.com/document/d/1Er0PGtRYQhHDgfNHZrIZHGkk\\_QzhJfaH/edit?usp=drive\\_link&oid=101526985342692722994&rtpof=true&sd=true](https://docs.google.com/document/d/1Er0PGtRYQhHDgfNHZrIZHGkk_QzhJfaH/edit?usp=drive_link&oid=101526985342692722994&rtpof=true&sd=true).

During its meeting at AC28, the members of the IWG intended to discuss the proposed workplan as well as to distribute the tasks among IWG members and agree on a timetable.

The convenor of the IWG on **Autecological Studies**, Prof. Stéphane Aulagnier, explained that there was nothing to report since the IWG was only supposed to meet shortly before the following MoP.

One of the co-convenors of the IWG on **Bats and Climate Change**, Ms. Daniela Hamidović, presented the report on the past activities of the IWG that had previously been prepared by herself, Dr. Hugo Rebelo, Dr. Orly Razgour, and Dr. Xavier Puig-Montserrat. She mentioned that, after AC27, the Secretariat sent questionnaire on the current climate change evidence bats were experiencing across the EUROBATs range. At that time, the IWG got replies from 10 countries and 16 experts. There had been little development on this topic since then. This

IWG was considering alternative strategies to gather more information on the potentially affected bat species and geographical areas by climate change. The IWG also pointed out that recent research publications had highlighted the impact of climate change on bat hibernation. In Spain, more specifically Catalonia, it was found that the body condition at the onset and end of hibernation of *Miniopterus schreibersii* had decreased significantly over the last 20 years. Also, in Abruzzo and Molise in Italy, it was shown that *Myotis daubentonii* were exploring higher altitudes and getting bigger body sizes. The group also wanted to draw the delegates' attention to a very extensive published review on the impacts of bats and climate change. Drs. Orly Razgour and Hugo Rebelo planned to start preparing a database that summarised the major findings regarding the acknowledged impacts of climate change on European bats. The IWG would meet during AC28 to discuss the following steps.

**Update from the ClimBats (<https://climbats.eu/>):**

Between 2019 and 2023 the project was awarded a COST Action focusing on the use of state-of-art modelling approaches to categorise European bat species according to responses to future climate change, on designing a European monitoring network to track changes in bat distribution and demography to inform conservation, and providing an economic assessment of bat insectivory in farmland, forecasting climate change effects on this service. This project was led by Prof. Danilo Russo and counted the participation of 47 members representing 27 European countries. The network stemming from the ClimBats Action yielded highly relevant outputs for the field. This included three already published scientific papers and nine others involving members of ClimBats, some of which fall under the scope of the 13 Short Term Scientific Missions and 6 Virtual Mobility programs approved by this Action. Furthermore, three projects/grants were approved under the scope of this Action, including one PhD grant. The Action actively promoted advanced training and knowledge transfer, as evidenced by the three training schools and two workshops conducted. Also, the IWG wanted to remind the Parties of the currently available online database compiling information on 118 bat traits obtained from multiple European monitoring programs. The database, called EuroBaTrait 1.0, was available at <https://jasja.shinyapps.io/ClimBats/>

This IWG was actively involved in this COST Action as convenors were leading two working groups and one convenor was also the co-chair and grant holder.

Therefore, this IWG would follow subsequent developments from this research network while also compiling most relevant information for this conservation theme.

Biodiversa+ (European Biodiversity Partnership) launched, among others, a two-year-long pilot in January 2024: “ABMS: Automated monitoring of birds, bats and nocturnal insects through sound and image recognition”

(<https://www.biodiversa.eu/biodiversity-monitoring/pilot/>). Site selection for the pilot took in account ClimBats monitoring network principles. Overall, 13 countries were involved in the pilot (Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Finland, Germany, Ireland, Italy-South Tyrol, Slovakia, Spain, Sweden, and the Netherlands). One of the partners was MESD (Ministry of Economy and Sustainable Development, Croatia) and the bat expert involved was Ms. Hamidović, one of the IWG co-convenors.

The convenor of the IWG on **Bats and Light Pollution**, Dr. Christian Voigt, explained that the IWG had reviewed the literature and compiled a list of new papers published since the last AC meeting. The convenor had also meanwhile organised two workshops on light pollution and bat conservation, one in English and one in German.

The convenor of the IWG on **Bats and One Health**, Dr. Sasan Fereidouni, explained that the group was established during the AC meeting in Sarajevo in 2023. During the last year the group had three online meetings, at which the members presented their work and the research they were doing on this topic. They also discussed how to organise and improve the work of the IWG, and these proposals would be further evaluated during the group’s meeting at AC28. Further, researchers working on special topics were invited to give presentations to the IWG members. One of them was Dr. Ken Field from the USA who gave a fantastic presentation on the white nose syndrome and the situation in the USA. Dr. Field promised to give another presentation for a bigger audience and, since this would be announced among the AC members, the convenor encouraged all AC delegates to participate. Furthermore, a project was conducted dealing with the situation with corona viruses in bats in European countries, which was concluded a few months ago and the outcomes of which would be presented to the AC members during this meeting. One of the positive results of the project was the establishing of a consortium of specialists working on corona viruses that may later together submit a proposal for a bigger project. Another important topic

for the group was rabies in bats and Mr. Peter Lina usually provided updates and gave interesting presentations to the group members.

One of the co-convenors of the IWG on **Bat Rescue and Rehabilitation**, Dr. Lena Godlevska, reported that the group continued to work on the text of the guidelines. In the last few months, the group received updated information on national rehabilitation contacts and available manuals from Israel, Poland, Bosnia and Herzegovina, and Moldova. Dr. Noam Leader from Israel had organised and kindly provided an English translation of the Israeli regulations on the removal of fruit bats from buildings to be demolished. Valuable comments on the content of the guidelines had been received from Dr. Nijat Hasanov from Azerbaijan and Dr. Sasan Fereidouni from Austria. Case studies for the guidelines were provided by the Institute of Zoology of Moldova, prepared by Dr. Victoria Nisteanu, by the NGO Tragus in Croatia, prepared by Ms. Mirna Mazija, and by the Bat Conservation Trust (BCT) in UK, prepared by Ms. Kit Stoner. Correspondingly, the text was updated, and some sections were reviewed. The new version would be circulated among the IWG members during this meeting. At its meeting during AC28, the IWG planned to agree on the next steps in the development of the guidelines.

One of the co-convenors of the IWG on **Bats and Wind Turbines**, Dr. Luísa Rodrigues, reported that there had been changes in the membership and the work plan of the IWG. A progress report containing updated information on various topics was being prepared and would be made available shortly after AC28.

Following discussions among members regarding the work plan, it was decided to split the guidelines for wind farm projects into two distinct documents: one focusing on onshore and the other on offshore projects. The development of the offshore project guidelines was already underway, with the onshore guidelines to follow.

The Convenor of the IWG on **Conservation and Management of Important Underground Sites for Bats**, Dr. Szilárd-Lehel Bücs, stated that the members of the IWG had an online meeting two weeks before AC28 to discuss the timetable for their work as well as the online questionnaire on bat conservation best practices in those underground roosts that were not purposely built for bats. During AC28 the members intended to further discuss the questionnaire, which would then be finalised and sent to the experts in the following months. A further



discussion point was the necessity to update the database of important underground roots, and to explore the possibility of cooperating with other IWGs.

One of the co-convenors of the IWG on **Education**, Dr. Hossein Zohoori, reported that the work had been done on the first material that was shared with the IWG members. He expressed his hope that the material could soon be ready for publication.

Ms. Daniela Hamidović as a co-convenor of the IWG on **Improving Methodologies of Assessing of Favourable Conservation Status in Bats** reported that Mr. Herman Limpens was no longer in the position to co-convene this group. She was, therefore, looking for a volunteer to help her in this regard as she, considering her other tasks, would not be able to convene such an important group alone. She further informed the delegates that a two-year-project financed by the EU funds had recently been finalized in Croatia, in which Mr. Goran and Ms. Dina Rnjak from Croatia and Mr. Primož Presetnik from Slovenia took part as key bat experts. Thus, the national bat monitoring programme in Croatia had been done with the evaluation of the conservation status methodology, so that at least in Croatia and Slovenia the same methodology would be applied. The IWG also wished to emphasise that, due to the recent unfortunate developments in nature conservation across the European Union, overlapping with the Green Plan and the war in Ukraine as well as the conflict between the Habitat Directive and the Renewable Energy Directive, the EU-EUROBATS action plan could not be fulfilled.

The convenor of the IWG on **Insect Decline as a Threat to Bat Populations in Europe**, Mr. Jacques Pir, reported in writing that the IWG had been active in gathering literature about insect loss as well as good practice examples. During its meeting at AC28 it would discuss how to proceed with the collected data.

Prof. Stéphane Aulagnier, who in the IWG mainly dealt with the knowledge about the diet of bats, explained that it was decided to compile information about the main arthropod groups in the European bat diet, defined by a threshold of percentage of prey, in order to exclude minor diet items. This was to be investigated through a comprehensive bibliography. A total of 445 papers and reports had been compiled so far (annex 1 – Excel file Bat-Diets-Analysed-Papers, available upon request at the EUROBATS Secretariat). Additional support was needed from the EUROBATS experts to find the 62 papers and

reports that the IWG could not find until now (annex 2 – Excel file Bat-Diet-Missing-Papers, also available upon request at the EUROBATS Secretariat).

One of the co-convenors of the IWG on **Monitoring of Diurnal and Seasonal Movements of Bats**, Dr. Christian Voigt, explained that the IWG convenors had continued compiling relevant data and had prepared a structure of the envisaged publication on “Diurnal and seasonal movements of bats” for discussion during AC28.

One of the co-convenors of the IWG on **Monitoring and Indicators**, Dr. Adrià López-Baucells, reported that, in the past year, the IWG added some more information to the European monitoring schemes online data set. A few members of the IWG had meetings with the representatives of BatLife Europe, trying to complete and publish the European bat indicator 2.0. that had been developed in the past and was using hibernacula counts and TRIM algorithms. Most of the work focused on the development of the online tool batmonitoring.org and improving its capabilities to offer all countries an online, easy to use platform to store bat monitoring data.

One of the co-convenors of the IWG on **Potential Impact of Solar Power Plants on Bats**, Ms. Heather Wood, reported that the IWG was suggested at AC27 in Bosnia and was established as an IWG later in 2023. Ms. Mirna Mazija and Ms. Alice Baudouin agreed to co-convene the group.

The IWG had its first online meeting in December 2023. The three aims identified for the group until MoP10 were:

1. Collate all relevant literature relating to the topic of Solar Power Plants and Bats

Sharepoint drive was provided by the EUROBATS Secretariat that the group was using to collate all published and grey literature on the impacts of solar farms. So far, there were 40 reports or publications categorised into the following groups with the number of publications in parenthesis:

Empirical studies- solar farms:

- Bats (3)
- Arthropods (2)
- Birds (1)
- Plants/soils (4)

#### Empirical studies-other

- Obstacle avoidance (1)
- Smooth surfaces (2)

#### Reviews of impacts (not empirical)

- Multiple species including bats (8)
- Multiple species excluding bats (1)
- General environmental impacts (7)
- Impacts of different technologies (2)

#### Grey literature

- Birds (1)

#### Recommendations or Guidelines

- Bats (1)
- Arthropods (2)
- Multiple species including bats (2)
- Multiple species excluding bats (1)
- Recommendations on placement of Solar Farms (1)

#### National report on Scale of Development

- Sweden (1)

The group reported that, of these reports/publications, only three empirical studies had been conducted on the impacts of solar farms on bats. Below is a short summary of the findings:

a) Passive acoustic survey at 15 sampling areas in Hungary (area = one solar farm and surroundings habitat) resulting in 190 sampling points. Bat species typically found in urbanized and agricultural habitats (*Hypsugo savii*, *Nyctalus noctula* and *Pipistrellus kuhlii*) are often found active at solar farms, while other species (*Myotis* spp. and *Barbastella barbastellus*) do not use solar farms area frequently (Szabadi et al., 2023).

b) Passive acoustic paired study conducted at 19 ground-mounted solar PV developments in southwest England. Activity of six of eight species/species groups analysed was negatively affected by solar PV panels, suggesting that loss and/or fragmentation of foraging/commuting habitat is caused by ground-mounted solar PV panels (Tinsley et al., 2023).

c) Three-dimensional flight path reconstruction study, paired sampling of 16 control and 16 solar farm sites in France. Strong behavioural responses

(buzz, flight speed and sinuosity) to ground-mounted solar farms in two of three bat guilds (MRE and SRE) and five of seven taxa detected. The implementation of ground-mounted solar farms is likely to result in reduced feeding habitat quality for bats (Barré et al., 2023).

The IWG, therefore, urged EUROBATs Parties and Non-Party Range States to prioritise more empirical studies into the identification of possible impacts of solar farm development on bat populations.

2. Identify the scale of solar park development across Eurobats Range States via a questionnaire to be sent to all focal points.

The IWG was currently drafting a short questionnaire to send to all administrative focal points to collate this information. Suggested questions to be asked:

a) Country

b) Does your country have solar power plants planned and/or already installed? (Yes/No)

– If yes, what types of solar? (photovoltaic (ground based), photovoltaic (on existing buildings or infrastructure), floating, concentrated (using mirrors), solar towers etc. (multiple answers possible))

– If yes, can you state the cumulative (total) power of planned and/or already installed (in MW)?

c) What types of habitats are usually used for solar power plant development in your country? (agriculture, fishponds, forest, grassland, other – multiple answers possible)

d) Does your country currently have any legislation or guidance on how to minimize the impact of solar power on bats? If so, provide a link to relevant documents.

3. Compile a summary report of the literature and future development of Solar Power Plants

The IWG proposed to create a resolution or a short communication of its findings to send to all administrative focal points.

## References

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One of the co-convenors of the IWG on **Protection of Overground Roosts with Particular Reference to Roosts in Buildings of Cultural Heritage Importance**, Mr. Primož Presetnik, reported that, since the last AC meeting, he had prepared a summary of the findings from the national reports of the Parties and Non-Party Range States on the subject. This summary would be presented to the IWG members during its meeting at AC28 to decide how to proceed and was available on the EUROBATS website as Inf.EUROBATS.AC23.4.

Shortly after he took over from Dr. Henry Schofield to convene the IWG on **Purpose-Built Bat Roosts**, Mr. Tom Kitching got seconded by Vincent Wildlife Trust to St. Helena for 18 months. As it had been planned that Dr. Schofield assisted Mr. Kitching during the first months of convening the group, he continued collecting information on best practices of purpose-built bat roosts. Once Mr. Kitching was back, hopefully to the VWT, the group could continue with more activity in the following years.

The convenor of the IWG on **Strategic Planning for the Restoration of Species Across Their Former European Range**, Prof. Fiona Mathews, reported in writing that the IWG was established at AC27 in Sarajevo in 2023. It fulfilled the Conservation and Management Plan, Resolution 9.7, Section 4 (d), which stated that the AC should review the information available on the restoration of bat populations to their former geographical ranges.

The IWG met online on 3<sup>rd</sup> April, 2024. The attendees of the meeting were Prof. Fiona Mathews, Dr. Szilárd-Lehel Bücs, Dr. Frauke Krüger, Dr. Adrià López-Baucells, Dr. Ivana Budinski, and Ms. Mirna Mazija. The following activities were agreed upon for the IWG:

1. To identify species that have had significant range contractions and/or were at particular risk from climate-change;
2. To review information on the barriers to natural recolonisation of former ranges;
3. To collate information on interventions that could promote the extension of ranges, including the provision of stepping stone roosts and translocations;
4. To place the information in the context of policies or directives that could promote actions likely to facilitate the restoration of bats to their former ranges (e.g. Convention on Biodiversity);
5. If appropriate, to submit a draft resolution for consideration at MoP10.

Note: The IWG agreed to define three timeframes for consideration when determining whether species had undergone significant range loss: long-term (100 years); medium-term (since 1960s/70s, broadly aligning with widespread adoption of high-input farming practices); short-term (10 years, aligning with Red List time-frames). They also agreed that regional-scale as well as country-scale level loss could be considered significant.

The IWG also agreed on the milestones to be achieved **by end of June 2024**:

1. To identify species that have had significant range contractions and/or were at particular risk from climate-change
  - a. To obtain information on range changes from IUCN Red List Process and European Mammal Atlas 2 (Prof. Fiona Mathews to discuss with Prof. Danilo Russo and Mr. Tony Mitchell-Jones);
  - b. To obtain further information from a) delegates of the Advisory Committee via a short, personalised questionnaire, b) a questionnaire to scientific focal points distributed by the EUROBATS Secretariat; and potentially c) social media (Dr. Ivana Budinski to lead);
  - c. To obtain maps on range shifts from Cost-Action on Bats and Climate Change under alternative carbon scenarios;

d. To meet by the end of June 2024 for a workshop to discuss the evidence from 1-3 (above). The aims were to identify species with a history of significant range loss, together with a subgroup of species with particularly marked losses and/or a history of positive interventions, that could form suitable case studies. For each of these species, the IWG would record:

- the scale of the range loss;
- the main drivers of range loss;
- the dispersal ability of the species;
- the nature of range changes anticipated from climate-change;
- the likelihood of natural recolonisation in the absence of deliberate interventions.

Further, the IWG also agreed on the milestones to be achieved by AC29 in 2025:

2. Review information on the barriers to natural recolonisation of former ranges

The IWG agreed that this could potentially be a very broad objective, and, therefore, decided to focus on the following selected topics:

- a. To complete the review of availability of old-growth forest and its connectivity across Europe (Prof. Fiona Mathews leading, other members of IWG encouraged to participate);
- b. To consider whether the updated database of underground sites being produced by the corresponding IWG could be used to inform assessments of potential for recolonisation of former ranges (Dr. Szilárd-Lehel Bücs leading).

3. Collate information on interventions that could promote the extension of ranges, including the provision of stepping stone roosts and translocations

- a. Review published and unpublished evidence on stepping stone roost creation. (PhD student would focus on published information; all members of IWG were invited to provide case-studies);
- b. Review published and unpublished evidence on translocations. (Dr. Szilárd-Lehel Bücs to obtain information from colleagues in Hungary as a case study).

No reports were made for the IWG on **Communication, Bat Conservation and Public Health** as well as the IWG on **Bats, Insulation and Lining Materials**. Ms. Petermann expressed her regret that the Advisory Committee did not hear from all the IWGs and that not all the convenors were present at the meeting when they were supposed to report. She also invited the IWGs to make use of the assistance of the Secretariat, which offered to set up as many online meetings as the IWGs needed. Ms. Petermann concluded that the difference between an online and an in-person meetings was that in the online format the IWG sessions did not take place in parallel but one after the other. Though there were some restrictions for the discussions, it was still very important that the delegates came together to debate and advance their work on important topics. Finally, she advised the convenors to focus on the terms of reference and the work plan during their meetings.

## 7. Meetings of IWGs

The IWGs had their meetings as presented in the meeting schedule (Inf.EUROBATS.AC28.1.Rev.4, available on EUROBATS website).

Following the meetings of the IWGs, several presentations were given, namely, by:

Mr. Roman Guziak from pro Natura Poland (<https://lifepodkowiectowers.pl/en/>), Ms. Daniela Hamidović, EUROBATS scientific focal point for Croatia ([https://www.eurobats.org/sites/default/files/documents/pdf/Advisory\\_Committee/presentation\\_dhamidovic\\_EBR2021\\_small.pdf](https://www.eurobats.org/sites/default/files/documents/pdf/Advisory_Committee/presentation_dhamidovic_EBR2021_small.pdf)), and Dr. Sasan Fereidouni, also EUROBATS scientific focal point for Iran.

## 8. Progress reports from Intersessional Working Groups

Ms. Petermann explained that, after fruitful discussions and excellent presentations, the IWGs that met during AC28 would report in the order in which their meetings took place.

Ms. Ivana Budinski, one of the co-convenors of the IWG on **Daily and Seasonal Movements of Bats** reported that the IWG met on 8<sup>th</sup> April 2024 when the two co-convenors, Dr. Christian Voigt and herself, thanked the IWG members for their support over the past year. They invited the AC delegates to join the work of the IWG by writing an email to the EUROBATS Secretariat.

Further, Dr. Voigt described the timeline for the envisaged publication on daily and seasonal movements of bats. It was agreed that the latest point for the



finalisation of the draft should be late winter/early spring 2026, considering that MoP10 was scheduled for autumn 2026. Dr. Voigt emphasised that this publication would not include guidelines and distinct management recommendations but rather a compilation of movement data from Eurasian bats. Therefore, the convenors did not expect a controversial discussion about the content. It was suggested that the action was consistent with Resolution 8.3., which “*Requests the Advisory Committee to collate information on above-mentioned research topics*”.

Dr. Voigt also described the tentative structure of the publication, which was then discussed by the IWG members. After an initial chapter on theoretical and conceptual aspects of the movement ecology of bats, a core chapter would compile all relevant information about the movements of bats within the geographic range of EUROBATS countries. The third chapter would summarize the most important anthropogenic threats in relation to bat movements, referring to other EUROBATS publications. The last chapter should focus on knowledge gaps and research needs. It was discussed to have an online repository administered by the EUROBATS Secretariat for providing information on the movement data from European bats.

Finally, the convenors called for contributing authors for the species accounts and members of the IWG volunteered to do so. A list of potential authors was being compiled by the EUROBATS Secretariat and it was agreed that the authors team should meet during the last half of April 2024 for a kick-off meeting.

The convenor of the IWG on **Light Pollution and Bats**, Dr. Christian Voigt, reported in writing that the IWG met on 8<sup>th</sup> April 2024.

He also stated that he had sent the compilation of references to the members of the IWG and had suggested that the revision of the EUROBATS guidelines should start during 2024, for which a kick-off event should be organised during early summer. It was agreed that the revision did not have to pass the MoP in 2026 since it was covered by the designated tasks of the IWG as part of the previous resolution. Dr. Voigt mentioned that the final draft should be sent out via EUROBATS Secretariat to the national focal points for approval once the revision had been finalised by the authors team. It was further agreed that best practice examples should be compiled, preferably on the EUROBATS cloud. The best practice examples – currently missing in the first version of the guidelines – should cover the geographic range of EUROBATS.

Dr. Voigt invited the auditorium to contribute to the work of the IWG and specifically to the revision of the guidelines. Interested experts should write an email to EUROBATS Secretariat. Dr. Voigt concluded by thanking the IWG members for their support over the past year as well as for their fruitful discussion during AC28.

Dr. Luísa Rodrigues, a co-convenor of the IWG on **Bats and Wind Turbines**, informed the plenary that a progress report containing updated information on various topics would be made available shortly after the 28<sup>th</sup> Advisory Committee meeting or during the meeting. She also mentioned that the development of the guidelines for offshore projects was already underway, while the onshore guidelines were to follow.

Mr. Branko Karapadža, a co-convenor of the IWG, informed about the progress in the development of the offshore project guidelines, presented the draft table of contents and assignments of the core team to draft the guidelines, and invited the IWG members to join the team.

The convenors initiated the discussion about the changes in the EU regulation and practice aiming to accelerate the development of renewable energy and the possible implications of these on bats across the EU (and non-EU) countries. At the proposal of Dr. Christian Voigt, the IWG decided to prepare a questionnaire to gather information on the implementation of new regulations in the Parties and Non-Party Range States. Also at the proposal of Dr. Christian Voigt as well as Dr. Ludo Holsbeek, the IWG decided to prepare a position paper on the subject and to look into the possibilities to formalise this initiative. Following consultations with the Secretariat, the IWG decided to prepare a draft document or resolution to present to the next joint meeting of the Advisory and the Standing Committees and then to MoP10, and a position paper to be published by scientists independent of their membership in this IWG.

One of the co-convenors of the IWG on **Monitoring and Indicators**, Dr. Adrià López-Baucells, explained that the IWG met during AC28 and that both convenors were present. The objectives of the IWG for the upcoming quadrennium were revised: 1) finalising the update of the guidelines (EUROBATS Publication Series No. 5) on which some group members had been working during the past years, and 2) publishing the monitoring programs dataset online, which summarised the specificities of the schemes across regions.

During the meeting, the online public database with specificities and methodological details of the monitoring programmes that had been carried out across EUROBATS area was presented. It can be accessed at the following link: [\[Link\]](#). New countries showed interest in providing such information (Slovenia – Mr. Primož Presetnik, Portugal – Dr. Luísa Rodrigues, Poland – Prof. Aleksander Rachwald). It was agreed to organise one more (and final) official request for data collection via the Secretariat, and then publish the dataset online. It was further agreed that two types of contributors would be acknowledged as authors of the dataset: 1) people who contributed actively during the table curation and data management, and 2) people who contributed with monitoring programmes' data from their countries. Finally, it was decided to upload the dataset to the Zenodo repository to register it in a robust, stable cloud service, get a doi code, and link the dataset directly to the EUROBATS website (both in the publications and the IWG pages). In terms of the calendar, the decision was made that the curation and finalisation of the dataset should be carried out in April 2024, the dataset should be sent to all AC members for final approval in May 2024, and everything should be uploaded to Zenodo in June. Ms. Charlotte Roemer offered her own website to envisage the information of the dataset in a more powerful and visual way.

During the IWG meeting, the draft of the guidelines was also briefly presented and revised, especially to find contributors for the few remaining sections. The draft was available here [\[Link\]](#). Several members of the IWG showed interest in helping with these sections, namely Mr. Primož Presetnik for *Walked bat detectors transects*, Ms. Aline Dépraz for *Genetic monitoring*, Ms. Charlotte Roemer and Dr. Marcus Fritze for *Data management, sharing and storage* section, Dr. Fritze for chapter 6 as well, and Mr. Mateusz Ciechanowski for the other missing chapters. Dr. Ferdia Marnell also offered help to proofread the document in its final form. In terms of the calendar, these few sections that were still pending were supposed to be written and finalised by June 2024. Some AC members should review and correct the whole guidelines manuscript from July to October, and then it should be sent to the Secretariat in November 2024 for its final endorsement.

Ultimately, the convenors also presented the initiative led by BatLife Europe to recover the work done in the past to improve the European bat indicator of cave-dwelling bat population trends. This project was previously known as European

Bat Indicator 2.0, and it was presented by Mr. Primož Presetnik at the AC Meeting in Skopje in 2019. The main aim of this initiative was to compile all the information and analyses done in 2019 by Mr. Tom van der Meij and others and publish the population trends in a journal such as the *Journal of Bat Research and Conservation*. Ms. Heather Wood confirmed that some funds were secured to finalise it and that this was transferred to a member of the IWG (Mr. Jasja Dekker) to complete the publication and submit it.

A new PhD thesis in Spain focusing on bat population trends was introduced to the group, and the possibility of applying for EPI funding to assist countries willing to contribute to the [www.batmonitoring.org](http://www.batmonitoring.org) platform was discussed. Any country with bat-related large datasets without a specific online database was welcome to contribute to the project and freely use it. A new method for importing data had been developed and was open to the public.

Lastly, arising from the previous discussions regarding bat marking monitoring in terms of skin lesions and injuries, the IWG convenors suggested organising an online meeting to design a simplified, standardised and common form to assess injuries caused by bands and add it to the EUROBATS website. The meeting would take place in July 2024, and various forms used by several members in different countries would be presented. Dr. Luísa Rodrigues and Prof. Aleksander Rachwald offered to send data on ring injuries in Portugal and Poland, respectively.

One of the co-convenors of the IWG on **Potential Impact of Solar Power Plants on Bats**, Ms. Heather Wood, mentioned that the IWG had a successful meeting, during which the findings from the reviewed literature were presented. Also, three co-authors of the three empirical studies that had been done so far on the impact of solar plans on bats were present at the meeting and there was a discussion on the papers. The IWG agreed that it should prepare a questionnaire to be sent out to EUROBATS focal points, but it was still to be decided if this questionnaire would be a part of the wind turbines questionnaire or a separate one. This discussion would be carried out with the Secretariat after AC28. It was also agreed that the most appropriate way for the IWG to summarise its findings from the literature as well as from the questionnaire would be an informal report rather than a resolution.

One of the co-convenors of the IWG on **the Protection of Overground Roosts with Particular Reference to Roosts in Buildings of Cultural Heritage**

**Importance**, Mr. Primož Presetnik, reported that the group met on 9<sup>th</sup> April when the results of the analysis of national reports on the subject were presented (Inf.EUROBATS.AC28.5).

In an open discussion several things were considered. Ms. Kit Stoner briefly presented the results of the UK's [Bats and Churches](#) project and emphasised the importance of building relationship with all stakeholders, which could be time-consuming but was worthwhile in the long run. Ms. Daniela Hamidović raised several topics on the conservation of bat roosts in buildings, namely the obligation of the EU countries because of the current [Bat action plan](#), the principle of “do not do significant harm”, and the potential issues which lighting projects posed to bats in buildings of cultural heritage. In relation to the EU countries, Mr. Presetnik also referred to the legal obligation, of which the summary of the relevant case-law was available at: [Commission notice 2021](#).

Finally, the IWG agreed to follow two paths. The first one was to gather more details on the current state of national and regional databases/systems on important overground bat roosts and their connections with possible databases/systems of cultural heritage. Additionally, the financing of renovations/maintenance of buildings of cultural heritage should be explored and whether there were good enough provisions for the protection of known and potential roosts. The second course was to gather more recent examples of good practices.

In the coming weeks a separate online conference was planned so that the IWG members could determine the next steps and split up the work.

The convenor of the IWG on **Anthropogenic Deadly Traps for Bats**, Dr. Andrzej Kepel, explained that the IWG had prepared a form for submitting descriptions of anthropogenic deadly traps for bats and methods to avoid or mitigate their negative impacts. It was agreed that comments on the content of the form could be submitted by the end of April 2024. The form was available at: <https://forms.gle/2jkWTDEDw5SERuJk9>

Suggestions for amendments and additions to this form could be made to the file: <https://docs.google.com/document/d/1L1skCttj3V6UkRyPG1DnXZGrSttAsVZv/edit?usp=sharing&oid=101526985342692722994&rtpof=true&sd=true>.

Submission of traps sent so far were available for comments at: [https://drive.google.com/drive/folders/1ARYLeTy\\_hPilwDJDTLwq9mouzLXk-Yq7?usp=sharing](https://drive.google.com/drive/folders/1ARYLeTy_hPilwDJDTLwq9mouzLXk-Yq7?usp=sharing).

Dr. Kepel mentioned that experts in the study and conservation of European bats would be invited to submit descriptions of trap types starting from early May 2024. The form would be distributed by the EUROBATS Secretariat to administrative and scientific focal points, with a request for further dissemination to potentially interested stakeholders.

The group also adopted the following work plan:

April – May 2024 – to create and make available online the final version of the form for submitting trap types;

June 2024 – March 2025 – to disseminate the form to bat experts all over EUROBATS range, to collect entries, and organise an on-line discussion of the content of the entries (e.g., additions of examples and experience from other countries, photos, etc.);

29<sup>th</sup> EUROBATS AC meeting (March/April 2025) – to discuss and adopt the list of traps to be included in the guidelines;

May-September 2025 – to make final additions to the descriptions (possibly additional types of traps identified in point c), as well as literature and photos;

October 2025 – March 2026 – to work on-line on the final wording of the guidelines;

30<sup>th</sup> EUROBATS AC meeting (March/April 2026) – to decide on debatable issues (if any), to have the draft guidelines adopted by the EUROBATS Advisory Committee and forward it to the Meeting of the Parties for approval (autumn 2026).

The meeting was concluded with a discussion on a preliminary list of trap types to be included in the future guidelines (the list is not concluded):

- downpipes from gutters leading to rainwater tanks or underground drainage systems,
- insect sticks,
- barbed wire fencing,
- light traps for photophobic bat species,
- light traps during August pipistrelles “invasions” on staircases,

- pheromone traps for insects in forests,
- smooth-walled containers in bat roosts,
- ventilation shafts in blocks of flats,
- wasp traps,
- double windows,
- tilted windows.

During the meeting of the IWG on **Bat Rescue and Rehabilitation** at AC28, the convenor of the group, Dr. Lena Godlevska, shortly introduced the aim of the IWG. She then presented the recent updates to the text of the guidelines on bat rescue and rehabilitation. The attendees considered and discussed the current state of the readiness of the guidelines by its sections. The experts from Spain, Switzerland, Finland, Poland, and Croatia provided or promised to provide shortly after the meeting additions to the list of national rehabilitation contacts and references to the new national guidelines. The members of the IWG approved the timetable for further work on the finalisation of the guidelines. The most optimal period for completing the guidelines for publication was determined to be the end of 2024.

The convenor of the IWG on **Insect Decline as Threat to Bat Populations in Europe**, Mr. Jacques Pir, reported that, during its meeting, the IWG considered Resolution 8.13, which stated the aim of this group, as well as the work that had already been done. It was mainly Prof. Stéphane Aulagnier who had reviewed over 445 papers on bat diet. 62 of these scientific papers were still not available to the group, so the members asked the Secretariat to reach out to the scientific focal points to gather the missing literature. Regarding future activities of the IWG, Mr. Pir mentioned that the IWG got a co-convenor – it was Prof. Katherine Eldegard from Norway. It was also agreed that the focus should be mainly on the junctions between key insects identified and habitats to be protected. Insect and arthropod specialists should be contacted to gather good practice examples on key prey specific conservation measures in the EUROBATS area, where the Secretariat would be requested to assist.

The convenor of the IWG on **Bats and One Health**, Dr. Sasan Fereidouni, explained that, during its meeting at AC28, the IWG reported on its different tasks and what progress had been made so far. The group also received valuable comments referring to the organisation of its future work. Further five delegates had expressed their willingness to join the group and the convenor had also

received contact addresses of experts outside of the EUROBATS community. Since it was planned to continue monitoring corona viruses in bats, the convenor encouraged those who had not yet participated in this monitoring to provide their samples.

One of the co-convenors of the IWG on **Improving Methodologies of Assessment of Favourable Conservation Status in Bats**, Ms. Daniela Hamidović informed the Advisory Committee that, since the other co-convenor, Mr. Herman Limpens, could no longer assist her, she had asked for a volunteer to help her lead the group. She was glad to announce that Dr. Marcus Fritze had offered his help. The group had an extensive task to tackle and planned to meet in May 2024 to discuss the way forward. The Secretariat would provide a link for an online meeting to which not only scientific focal points but also other bat experts with knowledge on reporting procedures and conservation assessments would be invited. Finally, it was also decided that, based on the agenda, EUROBATS should participate at the meetings of the expert group on reporting under Nature Directive led by the EU Commission. EUROBATS would be represented at these meetings through its Scientific Officer, Dr. Suren Gazaryan, who had already sent an official list of bat species to the expert group in order to update the check list for reporting.

The convenor of the IWG on **Conservation and Management of Important Underground Sites for Bats**, Dr. Szilárd-Lehel Bücs, reported that, at its meeting during AC28, the IWG appointed Dr. Marcus Fritze as a co-convenor, whose effort was greatly appreciated. During the meeting the group also discussed and agreed on the necessary steps and timeline of its work, with the plan to conclude all the tasks at the AC meeting in 2026, before the next MoP. The members of the IWG also discussed in detail the questionnaire to be sent to bat experts regarding best practices in bat conservation at underground sites, but which should also offer respondents the possibility to give information about bad examples. The IWG members indicated the need to have several formats available, for example a Google form, but also a Word file. The questionnaire would be refined and finalised based on the comments received during the meeting and was planned to be sent out to the scientific focal points by the beginning of the second half of the year. Options on online platforms to publish the gathered data were being considered. The best option should be determined at a later stage, based also on consultations with the Secretariat. It was further



agreed to have a separate online meeting only on the topic of updating the database of key underground sites, which seemed to be of interest for many members.

Prof. Paul Racey, the convenor of the IWG on **Communication, Bat Conservation and Public Health**, reported in writing that, at the IWG meeting during AC28, Mr. Peter Lina introduced the Fact Sheet on Rabies in European Bats which he had prepared with Dr. Lena Godlevska, and which had been posted among documents for the meeting. This was discussed and some suggestions were made for additions. The Fact Sheet would be finalised and included in the EUROBATS website. In addition, the members of the IWG requested the Secretariat to explore the possibility of publishing the Fact Sheet as a EUROBATS leaflet.

Mr. Peter Lina then drew attention to recent information pointing to a decline in anti-rabies titre following Covid infection. This important new information would be followed up and publicised.

Further, Prof. Paul Racey mentioned a paper drafted by Prof. Brock Fenton and twelve international colleagues including himself, Peter Lina, and Ms. Lisa Worledge from the Bat Conservation Trust entitled "Bites, bat handlers and rabies: vaccination and serological testing of human risk groups". This paper would be put on the EUROBATS website when published.

Ms. Daniela Hamidović, one of the co-convenors of the IWG on **Bats and Climate Change** reported that, at the opening of the IWG's meeting at AC28, Dr. Orly Razgour presented the main results of the ClimBats COST action which ended in 2023. There was one paper yet to be published dealing with changes in the distribution of bats under different climate change scenarios. Dr. Razgour also gave an overview of new scientific articles dealing with all aspects of climate change influencing bats. This presentation would be made available to the Secretariat.

During its meeting, the IWG also discussed the organisation of its work based on the tasks defined at AC27. It was decided that the group should meet again soon and all the AC28 participants were encouraged to contact the Secretariat in case they wanted to become an active member of the group.

Finally, the IWG members identified as its current priority evaluating the vulnerability of bat species to climate change for which data were good enough

so that these findings could be communicated to the IUCN SSC Climate Change Specialist Group to see which bat species would be most affected. Ms. Hamidović also mentioned that there was a bat trait database that was open for all bat experts to fill in their data ( <https://jasja.shinyapps.io/ClimBats/> ). This data could be sent by email to the person in charge and their contact details were available at the Secretariat upon request.

Dr. Helena Jahelková, the convenor of the IWG on **Bats, Insulation and Lining Materials**, reported in writing that, during the meeting at AC28, the previous tasks of the group were shortly summarised, and methods of using different insulation materials and approaches resulting to danger for bats and bat populations were noted.

Five main points were stated for the future work of the group:

1. Research and collect findings of bats in buildings (with possible engagement of the public);
2. Follow new trends in insulation methods and materials;
3. Research the occupancy of bat boxes/custom made artificial roosts which were used as mitigation measures (species of bats, number of bats, type of box, type of artificial roost, etc.);
4. Collect case examples concerning the points mentioned above;
5. In five years' time, create a new questionnaire focusing on the comparison of the previous and present situation in each country.

Ms. Daniela Hamidović noticed that, during insulation and reconstruction works, the surroundings were also often changed (e.g. lights were added or trees cut), which could have an influence on the suitability of new roosts. She stated that it would be very valuable if every country could add information about the procedures concerning conservation of bats which allowed for utilization of the EU funds for insulation works. Dr. Christian Voigt added information about the meeting of IBROS (online symposium about the efficiency of replacements roosts for bats at buildings) and a questionnaire which could be used by this group and circulated among any field worker to gain data.

Dr. Hossein Zohoori, one of the co-convenors of the IWG on **Education**, stated that the group was pleased to present the first draft of the educational pamphlet.

The initiative aimed to disseminate valuable information on bats that would help in promoting their conservation and protection worldwide.

The group diligently compiled the initial draft of the pamphlet, consolidating relevant information and key messages. Careful attention was paid to ensure clarity, accuracy, and relevance to the IWG's mission.

During the AC meeting, the first draft was circulated among group members for review and feedback. Based on the comments received, the pamphlet would be revised as well as relevant visuals such as photos and drawings incorporated.

Once the group's feedback was incorporated and the visual elements added, the final version of the pamphlet would be submitted to the EUROBATS Secretariat for further processing. The EUROBATS logo should be added, and the pamphlet uploaded to the EUROBATS's website, ensuring wider accessibility and visibility.

Additionally, all the IWG members would be kindly requested to translate the pamphlet into their respective languages. These translated versions would serve as educational material, facilitating outreach to diverse audiences worldwide.

Concluding this agenda item, Ms. Petermann stated that she was very pleased with the progress the IWGs had made so far. She was confident that, if the Advisory Committee continued working at this pace, it would have good results to be presented at MoP10 at the latest. She encouraged all the delegates to continue with their engagement after this AC meeting as committed as before, especially so that the publications, which were already at a very advanced stage, could be finalised.

#### **9. Date and venue of the 29<sup>th</sup> Meeting of the Advisory Committee**

Mr. Streit said that the situation regarding the organisation of the AC meetings had not changed, but he expressed his hope that for the next meeting sufficient funds could be gathered through voluntary contributions so that an in-person meeting would be possible. The Executive Secretary had warned the administrative focal points upon several occasions during Standing Committee meetings that what happened at the last MoP – not to allocate funds for AC meetings – should never happen again. The Advisory Committee was at the heart of EUROBATS and good progress could only be achieved if it the committee had the possibility to meet in person. In any case, the timing of the meeting should be the same, depending on the Easter vacation. The Secretariat would keep the delegates informed as soon as there were any developments in this regard.

Ms. Petermann used the opportunity to say a few words to Mr. Streit and, on behalf of all the AC delegates, to express her heartfelt gratitude to the Executive Secretary, for whom this was the last AC meeting before his retirement. Mr. Streit had been the Executive Secretary of EUROBATS for over 25 years, since October 1998, and this was his 25<sup>th</sup> AC meeting. During this time, he had accompanied and initiated significant changes: The second amendment to the Agreement in 2000, or the change of the scope of the Agreement, to name just a few. During Mr. Streit's time as Executive Secretary, 25 new Parties had joined the Agreement. Ms. Petermann stated that EUROBATS benefited very much from Mr. Streit's patience and his calm and polite manner, especially when explaining the procedures to the committees, and this meeting was no exception. Ms. Petermann was sure the delegates would have found it much better if they had had a chance to say goodbye in person, to express their gratitude and the regret that Mr. Streit was leaving. She concluded by wishing Mr. Streit and his family all the best for his retirement.

Dr. Luísa Rodrigues suggested that a sentence should be included in the record regarding the Advisory Committee delegates' experience with online AC meetings. She said that all the delegates had made a huge effort so that the meeting could run as smoothly as possible. Though good results had been achieved, the meeting would have been much more successful if it had been in person. Dr. Rodrigues stated that the participants already had sufficient experience with online meetings and could judge accordingly. Ms. Petermann explained that she conveyed this message to the Standing Committee every time she had a chance to join its meetings. She was also certain that Mr. Streit did the same, but she supported the suggestion of Dr. Rodrigues to include such a remark in the record of this AC meeting. She still hoped that sufficient funds could be collected so that an additional in person meeting would be possible next year.

#### **10. Any other business**

Dr. Hossein Zohoori was delighted to share significant news with the AC delegates, namely that the Iranian environmentalist and conservationists had been granted pardons and released from prison after a lengthy period of six years.

To explain the context, Dr. Zohoori said that a total of eight members of the Persian World Heritage Foundation (PWHF) were arrested in 2018 by the Iranian authorities. PWHF, an esteemed NGO dedicated to the conservation of wildlife in

Iran, was established by the Iranian-Canadian Prof. Kavous Seyed-Emami, who himself was also detained. Tragically, Professor's family was informed of his death at the age of 63, allegedly by suicide while in custody.

Among those released were individuals such as Hooman and his wife Sepideh, who devoted their lives to the conservation of Iranian wildlife, with a particular focus on cheetah conservation. Hooman was a pivotal figure who had expressed willingness to assist Dr. Zohoori in the establishment of EUROBATS in Iran. Regrettably, this endeavour was impeded following his arrest.

Dr. Zohoori wished to inform the AC delegates of this news in remembrance of Professor Kavous Seyed-Emami, and for the other members of PWHF, he hoped they would experience continued health and happiness in their future endeavours.

Prof. Aleksander Rachwald mentioned that the question of bats in forests was touched upon in the work of many IWGs, e.g. climate change presented a threat to forests as well. Though he was not formally proposing the reactivation of the IWG on Bats and Forests, he suggested to take the time until the next MoP to reconsider if this IWG should be reestablished. Ms. Petermann confirmed that this had often been discussed and that a lot of IWGs tackle the related issues. She thanked Prof. Rachwald for his suggestion and promised to keep this in mind for MoP10.

#### **11. Adoption of the record of the Meeting**

The record was to be adopted after the meeting in a written procedure.

#### **12. Close of the Meeting**

Mr. Petermann thanked all the delegates once again for their collaboration and the work they did under difficult circumstances. She also thanked Ms. Eeva-Maria Tidenberg, the Vice-Chair of the Advisory Committee, for her continuing support, the Secretariat for organising the meeting, and especially the convenors who were taking over a lot of responsibilities and workload. She then gave the floor to Mr. Streit, who once again thanked the Chair and the Vice-Chair, as well as all the meeting participants for their work. He further thanked Ms. Petermann for her kind words from before.

There being no other issues to discuss, the meeting closed at 10:00.

## 28<sup>th</sup> Meeting of the Advisory Committee

Online meeting, 8-11 April 2024

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28<sup>th</sup> Meeting of the Advisory Committee

Online meeting, 8-11 April 2024

## List of Intersessional Working Groups and Convenors



<b>Title of Intersessional Working Group (IWG)</b>	<b>Convenor and Co-Convenor</b>
Monitoring and Indicators	Adrià López-Baucells, Ivana Budinski
Wind Turbines and Bat Populations	Luísa Rodrigues, Branko Karapandža
Insect Decline as Threat to Bat Populations in Europe	Jacques Pir, Katherine Eldegard
Bat Rescue and Rehabilitation	Lena Godlevska, Helena Jahelková
Bats, Insulation, and Lining Materials	Helena Jahelková, Herman Limpens
Purpose-Built Bat Roosts	Henry Schofield, Tom Kitching
Bats and Climate Change	Daniela Hamidović, Hugo Rebelo
Autecological Studies for Priority Species	Stéphane Aulagnier
Monitoring of Daily and Seasonal Movements of Bats	Christian Voigt, Ivana Budinski
Bats and Light Pollution	Christian Voigt
Communication, Bat Conservation and Public Health	Paul Racey
Education	Hossein Zohoori, Mounir Abi-Said
Bats and One Health	Sasan Fereidouni
Conservation and Management of Important Underground Sites for Bats	Szilárd-Lehel Bücs, Marcus Fritze
Anthropogenic Deadly Traps for Bats	Andrzej Kepel
Protection of Overground Roosts with Particular Reference to Roosts in Buildings of Cultural Heritage Importance	Primož Presetnik, Ferdia Marnell

Potential Impact of Solar Power Plants	Heather Wood, Mirna Mazija
Strategic Planning for the Restoration of Species Across Their Former European Range	Fiona Mathews
Improving Methodologies of Assessment of Favourable Conservation Status in Bats	Daniela Hamidović, Marcus Fritze