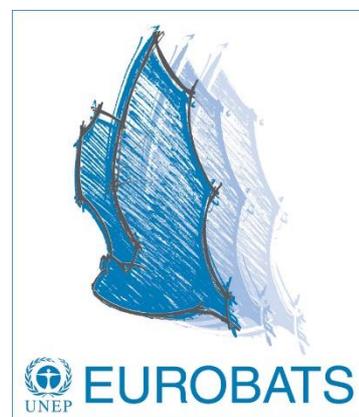


24th Meeting of the Advisory Committee

Skopje, North Macedonia, 1 – 3 April 2019

Record of the Advisory Committee Meeting



1. Attendance

This is listed as Annex 1 to the Record.

2. Opening remarks

Dr. Ferdia Marnell, the Chair of the Advisory Committee, welcomed the participants to one of the biggest meetings of the EUROBATS Advisory Committee, and invited Ms. Ana Petrovska, State Secretary, Ministry of Environment and Physical Planning, to address the meeting.

Representing the host Government, Ms. Petrovska welcomed the participants, also on behalf of the Minister of Environment and Physical Planning, Mr. Sadulla Duraki, as well as the Deputy Minister, Mr. Jani Makraduli. Ms. Petrovska expressed her pleasure for North Macedonia to host such an important event. Being a Party to EUROBATS, North Macedonia had regularly been represented at Advisory Committee meetings and had been submitting reports. There were at least 24 species of bats distributed over 40 localities throughout the country, and, there being many threats to bats, it was a challenge to protect them. However, the Government was committed to conserve bats and had recently adopted the most important national strategy for the protection of nature and for the protection of biodiversity with respective action plans. Additionally, under the Birds and Habitats Directives a new law on nature protection had been finalised and was in the parliamentary procedure. It was expected to come into effect by the end of this year. Finally, Ms. Petrovska wished to draw attention to the educational projects of EUROBATS, within the framework of which EUROBATS publications were translated into national languages, some of them being also available in Macedonian. Such publications were very important as they were promoting protection of bats among national NGOs and institutions. Ms. Petrovska concluded by wishing the participants a productive meeting and a pleasant stay in North Macedonia.

The Chair of the Advisory Committee thanked the North Macedonian government for welcoming the meeting in the beautiful city of Skopje. The numerous sculptures that could be seen in the city showed that North Macedonia was embracing its culture and was eager to preserve it as well as its heritage. The Chair thanked the host government for organising the excursion to the archaeological site of Stobi, which gave the participants an opportunity to see some of the beautiful countryside. The Chair concluded by wishing the participants a productive meeting.

The Executive Secretary, Mr. Andreas Streit, welcomed the participants on behalf of the Secretariat. It was a great pleasure to be in North Macedonia, and Mr. Streit used the opportunity to thank the host government for inviting this meeting. When the Secretariat learnt of the invitation for the meeting, it did not anticipate that it would be such a big event. However, from the beginning it was obvious how much importance the host government was giving to the meeting, as there had never been so many high-level consultations in preparation of an AC meeting before. The Executive Secretary expressed his hope that Ms. State Secretary could also see how much importance EUROBATS was giving to North Macedonia, and that the host country would be able to make use of the support EUROBATS could offer.

3. Adoption of the Agenda

Serbia was welcomed as a new Party to the Agreement. It was also explained that Bosnia and Herzegovina had sent their instrument of accession to the Depositary. Due to small formalities the Foreign Ministry of the United Kingdom did not accept the instrument, however, it was a tradition that if a country had completed the procedure of accession and just the entry into force was pending, the country could already be considered as Party for the purpose of the meeting. It was, therefore, proposed to apply the same in case of Bosnia and Herzegovina and there were no objections to it.

In continuation, the agenda was unanimously adopted.

4. Adoption of the Rules of Procedure

The Chair pointed to Doc.EUROBATS.24.3, to which no changes had been made since the last meeting. The Chair also highlighted Rule 2, regarding the admission of observers to the meeting. All observers were admitted without objections.

5. Election of Chair and Vice-Chair

After every Meeting of the Parties, a new Chair and Vice-Chair of the Advisory Committee were to be elected. Dr. Marnell asked for nominations for AC Chair. San Marino proposed Professor Danilo Russo from Italy. This was seconded by Belgium and the Netherlands. As there were no further nominations, Professor

Russo was elected Chair of the Advisory Committee. Dr. Marnell asked for nominations for AC Vice-Chair. Sweden proposed Ms. Ruth Petermann from Germany, and the proposal was seconded by Luxemburg and Croatia. There being no other nominations, Ms. Petermann was elected as Vice-Chair.

The Executive Secretary wished to thank Dr. Marnell, also on behalf of the entire Committee, for his excellent work as AC Chair during the last four years. For the Secretariat it was a great pleasure to have had the opportunity to work with Dr. Marnell as AC Chair and Professor Russo as Vice-Chair. It was a very productive cooperation, not only during the meetings, but also in the period between AC meetings, during which a lot needed to be coordinated. Professor Russo, taking over the role of the Chair, expressed his honour to have worked with Dr. Marnell. It was a challenge to replace him as Chair. Professor Russo further thanked the participants for their trust, which Ms. Petermann also did when taking over the role of the Vice-Chair.

6. Summary reports by Parties, Non-Party Range States and NGOs

PARTIES:

ALBANIA:

Since the last Meeting of the Parties, some progress has been achieved in the country, due to impact that NaturAL Project is having on strengthening national capacities on Nature Protection (IPA 2013-Project, 2015-2019, financed by the European Commission). In brief, it could be summarized as follows:

- Inventory and monitoring of important underground and overground roosting sites have continued and new sites have been discovered for maternity colonies as well as for hibernation.
- A national database on biodiversity has been established “BioNNA” and all historical and recently gathered data and information on bats has been deposited in it. All the data on bats are now publicly available and accessible.
- The first Atlas on Bats of Albania has been recently produced and published, both in English and Albanian. This is an important tool in the hand of the conservationists and researchers in the country to properly base they research, monitoring and conservation activities. A PDF version of this document will be available shortly.
- Most of the important underground and overground sites for bats have been identified and included in the preliminary list of Natura 2000 sites prepared under the NaturAL Project.

- A series of trainings on bat monitoring have been conducted with the Regional Administrations of Protected Areas staff (RAPA), aiming at increasing local administration's capacities, knowledge and skills on bats conservation in the country.
- Leaflets and dozens of bat boxes have been produced and displayed in the proximity of recently opened visitor centres in some national parks, so as to increase general public awareness on bat conservation and ecosystem services they provide for local people.
- All 32 bat species are protected by national legislation, but the challenge is on how to implement the law into deferent other sectoral policies, such as forestry, agriculture, construction, energy, tourism, transport, industry (mining).
- A new (revised) Red List of fauna, including bats, is under preparation and will be issued within 2019.

However, there are concerns that provisions of EUROBATS Agreement are not seriously taken into consideration during the planning and construction phase of large-scale development projects, such as hydropower schemes, road construction, mining, transport and tourism, enlargement of major urban areas such as Tirana city. Due to such activities, some important roosting sites have been adversely impacted. Recently, a draft Decision of the Council of Ministers (DCM) has been prepared and distributed for comments and public hearing, which tries to set up rules, criteria and procedure of using caves for touristic purposes (a new activity in caves for the country to-date), but, due to the way the document is written, there are concerns that such an initiative could have adverse impacts on key underground sites for cave-dwelling bats in Albania, if prevention and precaution principle and measures are not taken into consideration before that by-law enters into force. Written comments and suggestions are sent to the Ministry of Tourism and Environment with regard to this initiative of the Government of Albania, so as to ensure that no major and key underground sites are impacted by the implementation of such DCM.

CROATIA:

The Croatian Agency for the Environment and Nature (CAEN) seized to exist as of the 1st of January 2019 due to the Government's decision and is now a part of the Ministry of the Environment and Energy.

The Croatian fauna database (that will include all bat data) as part of the Nature Protection Information System is still under development and its finalisation is planned by the end of 2021. Another project planned is development and testing

of a bat monitoring programme, which is expected to start in the first half of 2020. Even more public institutions for management of protected areas/natural values are conducting bat monitoring, based on the information from yearly review of their management programs by the Croatian Agency for Environment and Nature.

Regular winter monitoring at the Veternica Cave did not reveal any new suspected cases of infection by *Pseudogymnoascus destructans* and mortality of 2 individuals (*Rhinolophus hipposideros* and *Myotis emarginatus*) was recorded. Post mortem of the lesser horseshoe bat was conducted.

The initiative to have rave parties in Cave Mandalina, an internationally important underground site and Natura 2000 site, has been stopped due to a reaction of the CAEN, although two concerts were already conducted in May and June with the permission on the county level. The cave and bats inside are regularly monitored. All other underground sites are under no significant threats.

Overground roosts, especially churches, are under significant threats, even those in which bats are conservation targets. There are ongoing conservation actions regarding these issues with all main interest groups involved in one site supervised and conducted by exCAEN (Ministry).

Reporting on the conservation status of bats for Article 17 of the Habitats Directive is under way and is expected to be finalised in due course.

With regard to the implementation of mitigation measures for the windfarm Jelinak (with one of the highest mortality rates recorded compared to EUROBATS collisions/mortality data), the legal options to prescribe mitigation measures that are different from the ones in the construction permit are still being considered by the Ministry.

International Bat Night is ongoing in more and more places each year and more public institutions responsible for management of protected areas/nature are including that activity in their yearly management programs.

CZECH REPUBLIC:

The government of the Czech Republic has accepted the Amendment of the Annex to the Agreement adopted by MoP8. The amendment was officially published in the Collection of international conventions in February 2019.

The meeting of the working group for the implementation of EUROBATS Agreement took place at the Ministry of Environment on March 1, 2019. The agenda of the meeting focused on resolutions adopted by MoP8. The following resolutions were selected as most suitable and needed for implementation in the Czech Republic: Res 8.3, Res. 8.9, Res. 8.10, Res. 8.13. The working group also

prepared proposals of projects that would help the implementation of mentioned resolutions.

The working group also discussed the idea to organise an international seminar on insulation and bat conservation to share rich experience of the Czech experts in this field with other contracting parties of EUROBATS. The agenda of this two or three-day-long seminar would include lectures and excursions to see examples of alternative man-made roosts. How much interest there was for a seminar of this kind was to be found out during AC24.

The delegation of the Czech Republic was deeply sad to announce that Professor Jan Zima, one of the famous Czech zoologists and chiropterologist, passed away on March 26, 2019.

ESTONIA:

There have been no significant changes in Estonian bat populations since the last meeting. Most important activities in the field of bat protection are:

1. Pond bat winter habitats protection activities like installing security barriers and negotiations with the land-owners, as well as public meetings and information days, have been carried out within the framework of EstBat LIFE project.
2. Estonian Fund for Nature has collected important new data regarding migration of bats over sea. This data will be used, among other things, in the maritime spatial planning. Estonia is interested in international cooperation in this field
3. Environmental Board has commissioned a new study of parks important for bats, that included data collection and recommendations for land-owners regarding bat-friendly park management.
4. There is a conflict situation including a court case regarding removal of a hydro-electric dam on Jägala river, where interests of fish protection and bat protection contradict. While former would benefit from dam removal, the research points to the water reservoir as an important bat feeding area. There is no court verdict yet.

FINLAND:

There have been no significant changes in the Finnish bat population trends since the last report. However, there is a need for standardised monitoring methods to provide reliable data for evaluations. In addition to ringing data and winter surveys that have been utilized for evaluations, long-term acoustic data from across the country collected at 13 research stations is being gathered. The Finnish Museum of Natural History, together with the Finnish Chiropterological Society, is establishing a new, voluntary based long-term monitoring system for bats.

In addition, there are several other voluntary based or citizen science projects going on: a “high-school students as bat researchers” –project encourages students to take part in scientific work. Another project encourages people to take part in bat dietary analysis by collecting bat droppings for research in order to gain more information about the diets of the bats also outside the national borders.

Currently, there is a new generation of very enthusiastic young researchers with many PhD projects focusing on white nose syndrome, functional diversity, physics of echolocation, conflicts of bats and windfarms and coronaviruses carried by bats in Finland. Some of the preliminary results from these projects might be presented next year at the 15th European bat research symposium, which will be held in Turku, Finland, in August 2020. Finland wishes all the AC24 participants welcome to the symposium.

FRANCE:

Firstly, the National Action Plan for Bat Conservation is ongoing, with two main issues since the last meeting.

Acton 8 – Improving conservation of bats in managed forests:

During the year of 2018, a total of 11 one-day workshops were organized by the National Forest Office (ONF), the National Centre for Private Forest (CNPF) and the French Mammal Society (SFEPM). These workshops aimed at identifying relevant people for forest management over the French territory and at improving communication among administrative and private forest managers and bat workers.

Action 10 – Promoting communication and disseminating information:

A new website (<http://www.plan-actions-chiropteres.fr>) gives an insight into the ten actions of the national action plan. A large part is given to bibliography and media resources. An agenda provides information on the main events related to bats.

Secondly, the Natura 2000 report has been recently completed. According to the recent national Red List, the status of some common bat species, which are declining, turned to “unfavourable”, whereas legal and physical conservation of roosts show positive effects on previously threatened bat species or populations.

GEORGIA:

From the activities carried out in Georgia since the last meeting it should be highlighted that data about five caves with bat colonies have been submitted to the government to recognize these caves as Emerald sites. These data were under consideration and it is expected that the caves will be nominated as Emerald sites.

GERMANY:

The conflict between bat conservation and the expansion of wind energy remains acute. Therefore, several studies and research projects to expand knowledge on this subject and find solutions to prevent negative impacts on bats are ongoing (cf. reports of last meetings, e.g. AC23 and MoP8). An updated, improved version of the tool Probat, which calculates the turbine-specific curtailment algorithms, was released, now differentiating the seasonal activity of bats and their collision risk for four natural landscapes and three different detector types and, generally, leads to slightly increased shut down times.

A new research and development project on energetic restoration (of buildings) and species conservation has started, and the EUROBATS guidelines on insulation projects are eagerly awaited.

The project on Bechstein's bat within the framework of the Federal Programme on Biological Diversity has been finished successfully and practical guidelines were published. They can be downloaded under:

<https://www.bechsteinfledermaus.eu/de/be/service/downloads/>. A similar project on the Barbastelle under the framework of the same programme has started this year.

Finally, after ten years, a new Red List of Mammals in Germany has been drafted. Of the 25 species in Germany, 9 species were categorized as “least concern”. Three species are considered as “critically endangered”.

IRELAND:

There are still only nine resident bat species in Ireland. The National Bat Monitoring Programme covers seven of these species. This programme is government funded and managed by the national bat NGO – Bat Conservation Ireland (<https://www.batconservationireland.org/>). The most recent report (2018) which summarises the data and also provides population trends for these species is available here:

<https://www.npws.ie/sites/default/files/publications/pdf/IWM%20103%20Bat%20Monitoring%202015-2017.pdf>

In 2019 a new woodland monitoring approach will be tested if it will produce enough data to underpin a robust monitoring programme for the other two species – *Myotis nattereri* and *M. mystacinus*.

The Article 17 reporting process for the Habitats Directive has just been completed (<https://www.npws.ie/article17draft2019>). Eight of Ireland's nine bats were deemed to be in “favourable conservation” status. However, the lesser horseshoe bat, which

had previously been assessed as “favourable” was this time deemed to be in “unfavourable-inadequate” status. The change in assessment reflects a small but significant decline in the range of the bat in Ireland. This decline is leading to a gap in the distribution of the species in the west of Ireland and effectively splitting the range into a northern area and a southern area. This in turn is leading to concerns about potential genetic impacts. The decline appears to be due to reduced connectivity in the landscape as a result of agricultural intensification and the National Parks & Wildlife Service are working with the Vincent Wildlife Trust to develop a dedicated farm plan scheme for bats in this area. Despite the decline in the range, the population of this species continues to increase significantly.

ITALY:

There is news from Italy regarding the list of bat species currently present. The finding of the first confirmed specimen of *Plecotus kolombatovici* for the country was published last week in Mammalian Biology, and, following the article on the new cryptic species arising from the “Natterer’s group” by Javier Juste and colleagues, Italy is home to the newly described “*Myotis crypticus*”. Finally, Italy is the proposer of COST Action CA18107 on the effects of climate change on bats. Last February, the kick-off meeting of the Action’s Management Committee took place in Brussels, where the basis for the implementation of the Action over the next four years was set.

ISRAEL:

1. The Israel Nature & Parks Authority (INPA) together with the Ministry of Environment are advancing a revision to the current Wildlife Protection Law in order to change the current status of the Egyptian Fruit Bat (*Rousettus aegyptiacus*) in Israel from an “unprotected pest status” to a “protected Species”, as pledged when Israel joined the EUROBATS Agreement. The revision has been postponed temporarily due to the national elections but is expected to happen during 2019.
2. The Israel Nature & Parks Authority (INPA) together with the Mammal Center of the Society for Protection of Nature in Israel (an NGO) have continued expanding the National Monitoring Plan for Israel's Bat Species. During the sixth year of monitoring, almost 100 sites (roost and foraging sites) throughout the country were surveyed. No major changes from last year's monitoring have been observed. Based on a recent review of the last five years of monitoring, several avenues of advancement have been suggested, such as moving to full spectrum bat recording monitoring.

3. The INPA is currently working on revising the Israeli Red Data Book for mammals and conducting dedicated surveys for this purpose.
4. The INPA is compiling a list of important underground sites for bats which will be submitted to EUROBATS during 2019.
5. Concerning wind farm planning, the INPA together with the Environmental ministry have submitted to the Israeli National Planning Commission a comprehensive methodology for minimizing risk to both bats and birds, which include sensitivity mapping, proper survey techniques and methodology, mortality thresholds, collision-risk modeling (for birds), requirements for an annual take permit by the INPA, post-construction surveys and commitment for increased monitoring and active measures if mortality thresholds are exceeded. The 2014 EUROBATS Guidelines for wind turbines have been translated to Hebrew for the purpose of establishing guidelines for the Environmental ministry. The EUROBATS guidelines have been implemented for both the planning and operational stages.
6. Five species of bats have been discovered so far in monitoring of two small windfarms now operational: *Rhinolophus ferrumequinum*, *Pipistrellus kuhlii*, *Rhinopoma microphylum*, *Taphozous nudiventris*, *Tadarida teniotis*.
7. Major efforts have been made and success achieved to combat light pollution in protected areas and with major infrastructure projects. Current knowledge of the effects on bats and other nocturnal wildlife is incorporated in addressing the issue.
8. International Bat Night was celebrated in four nature reserves throughout the country.

LUXEMBOURG:

The actual economic growth rate of Luxembourg unfortunately results in a continuous threat to bats and their habitats. Nevertheless, under the scheme of *M. emarginatus* action plan, the search for new reproduction colonies will be continued as the research project on the genetic of reproduction colonies throughout Europe, a collaborative project between the Natural History Museum and the Ministry of Environment (MECDD). The project will be finalised, and the results will be due in short. Monitoring of several bat species is ongoing since the Article 17 reporting for the Habitats Directive has to be finalised during the next months. In collaboration with Nature and Forest Administration and with the financial support of the Ministry of Environment, a pilot project of sustainable forest management has been launched, regenerating an 85-ha old oak forest stand with respect to the conservation of *Myotis bechsteinii*. International Bat Night will be held on the 19th

of July, 2019, in Bastendorf, near the site of one of the major reproduction colonies of *M. myotis*.

MONTENEGRO:

Since the last reporting, several field surveys have been carried out in Montenegro, which resulted in the incorporation of new data and conservation measures regarding bat species into several Management and Action Plans on the local level. In 2016/2017, a Biodiversity Action Plan was prepared for the area of the capital city (Podgorica), where the bat species and their roosts were indicated, along with the conservation measures that should be applied in the next three years. During 2018, for the first time in the coastal area of the special reserve “Tivat saline”, managed by the Public enterprise for coastal marine management, a mammal inventory was conducted with the help of the field group from the Dutch Mammal Society and the results with conservation measures were incorporated into the management plan of this reserve. In the last as well as this year the Institute for Marine Biology has been conducting surveys in semi-flooded marine caves. In all researched caves, there has been an indication of the presence of several bat species maternity colonies. New data about bat species distribution were collected through Natura 2000 national project implemented during 2017/2018. The number of known species remained the same (28).

NETHERLANDS:

- The first juvenile *Pipistrellus pygmaeus* has been recorded, however, there is no indication for the exact location of the roost yet.
- Maternity roosts for *Myotis bechsteinii* have been found again after decades without proof of reproduction.
- Research agenda for *Eptesicus serotinus* is being developed to stimulate synergy between studies in different parts of the country.
- Assessment of national (F)CS for the Article 17 reporting has been completed.
- For some of the (relatively) common species – e.g. *Pipistrellus pipistrellus* and *Eptesicus serotinus* – data deficiency and lack of analysis and/or modelling work cause difficulties in assessing FCS (regarding e.g. such basic data as population size, population trend and occurrence).
- Besides an increase in car monitoring transects in the outskirts and rural landscapes, the number of urban bicycle transects is increasing.
- The government has initiated a process of ‘nature inclusive energy transition’ where the stakeholders – from authorities and the industry to the conservation NGOs – try to find solutions for possible negative effects of the transition on, among

other species and landscapes, the bats. This is needed to be able to deliver the carbon emission reduction targets. The stakeholders are working towards real action and measures as opposed to just talking.

- The Ecological Program as part of the development of Wind at Sea is cumulating financial and research effort to address the knowledge gaps regarding effects on migrating bats.
- The potential threat of demolition or zero carbon emission renovation on mass-hibernacula of *Pipistrellus pipistrellus* is receiving increasing and accurate attention.
- First larger newly built apartment buildings with purposely built roosts for mass-hibernation are ready and are being monitored.
- Energy transition and the better economic situation have led to an extremely fast changing of the built-up area, to intensive building and renovation. Authorities, Bird Conservation Netherlands, and the Dutch Mammal Society are working with constructors, architects and project developers to pro-actively build in a nature inclusive way. The stakeholders try to assess possibilities in interdisciplinary teams and learn from each other. These projects intend to deliver good practice examples to let those parties involved in the process of building know that they need not be afraid of bats, and that proactive work helps keep the speed and continuity of the planning process.
- The negative effects of agricultural practices on landscape and biodiversity is recognised. A policy towards a sustainable nature inclusive agriculture is being developed and implemented. Bats and their potential positive role for sustainability in agriculture are an important topic in the process.
- A multiple years and fundamental research project 'Light on Nature' (NIOO/WUR) and others) has been completed, and grants for a follow up project 'Light on Landscape', targeting effects on specific landscape features and on mitigation of such effects, have been received and the work is being organised at the moment.

NORTH MACEDONIA:

The situation in North Macedonia is still not favorable for bats. They are not taken into consideration during environmental impacts assessments for various projects affecting them. The management of forests also does not take bats into consideration.

There are still problems with a wind farm operating without proper operational monitoring and lacking a preconstruction survey of bats. The situation is even being repeated for the same wind farm due to its enlargement. It seems that a case

opened before the European Council is not going to solve the problem, and that the same investor from Germany (KfW) is again financing an enlargement of this wind farm, and again without proper bat baseline surveys. The new wind farm has received a permission for construction without a proper preconstruction monitoring of bats.

On the government level, there is no activity regarding the fulfillment of obligations toward EUROBATS Agreement. The inventory of under- and over-ground roosts are still in the planning phase. The survey of bats in North Macedonia is done by NGOs, and mainly owing to small grants provided by EUROBATS or by inclusion of bats in some environmental projects of environmental consultancy companies in North Macedonia.

There is some hope that with new strategies for Nature and Biodiversity Protection of North Macedonia, announced by the State Secretary of Environment, some positive change will follow for bats as well as for nature protection in general.

NORWAY:

At the last AC meeting, it was reported that the Norwegian Parliament had asked the Norwegian Water Resources and Energy Directorate (NVE) to identify larger areas that may be suitable for land-based wind energy development. The Directorate's recommendations are being presented to the Ministry of Petroleum and Energy during the time of AC24. Hence, details are not yet known. From discussions during the process leading up to the NVE report, involving the Norwegian Environment Agency (Miljødirektoratet) as well as the Norwegian Zoological Society (NZF), it looks like bats will not be particularly hard hit. Uncertainty remains, perhaps particularly for parts of the Norwegian coast. The project has been based on existing knowledge without providing for investigations in the field, and bat migration along the coast is not well mapped. Individual development projects will still be subject to a process of scrutiny and concession by the NVE.

The Norwegian University of Life Sciences (NMBU) is now entering its third and last field season for a research project addressing ecology of select bat species. It is anticipated that the data collected will be relevant for conservation activities.

The NZF continues to carry out a number of bat related activities, including smaller monitoring schemes and bat walks and talks aimed at the general public, with financial support from the Environment Agency. A surveillance plan for the only known hibernation site for *Barbastella barbastellus* (CR on the Norwegian Red List)

was finalized by the NZF in 2018. Although the Society's bat rescue centre closed about a year ago, the bat help line has been kept running.

POLAND:

1. The 27th Polish Bat Conference took place In November 2018 in Białowieża. About 100 participants were present there.
2. The database with winter and summer bat roosts containing about 430 records was prepared and sent to the EUROBATS secretariat.
3. Monitoring of bat mortality during hibernation was conducted in Nietoperek – the biggest Polish bat hibernaculum. The reasons of death will be determined by the Veterinarian Institute in Puławy.

PORTUGAL:

Bat research in Portugal is on-going, covering several aspects of bat natural history and conservation biology.

The report on Article 17 of the Habitats Directive is under preparation.

Management Plans of Natura 2000 sites of mainland Portugal are being prepared, bats are focal species in several SACs. A project to collect information on mammals, including bats, is about to start. Main objectives of this project are the revision of the Red Data Book and the organization of the information for the next report of the Habitats Directive. Information will be also used for the Atlas of European Mammals.

In the Azores Autonomous Region the LIFE IP AZORES NATURA provides an action for assessing the distribution and conservation needs for *Nyctalus azoreum*. *N. azoreum* is restricted to the Azores archipelago and is protected by the Habitats Directive. This action lasts for five years.

ROMANIA:

In 2018 and early 2019, bat monitoring, research, and conservation efforts in Romania continued, with large colonies, new for science, being discovered on a regular basis. The annual edition of the International Bat Night organised in four locations across Romania by various organisations gathered a total number of over 1,100 visitors. The largest event (with around 800 participants) was organised by the Centre for Bat Research and Conservation in Cluj-Napoca. The Romanian bat research community also participates in drafting the 2nd Edition of the Atlas of European Mammals (Mitchell-Jones et al.), through a designated national coordinator for bat data. Besides this, organisations from Romania continue to participate in several international research initiatives, for example regarding white-nose syndrome and that of bat parasites. In October 2018, with the significant

sponsorship of Pettersson Elektronik AB, the 3rd National Bat Research Conference was organised, the most numerous to date in terms of participants. One significant achievement of early 2019 was the submission of the national report to EUROBATS, which summarizes the period of 2011-2018. The report was a joint effort of the Romanian bat research community and colleagues from the Ministry of Environment. It details numerous results of the last 8 years achieved by various organisations, as well as lists the remaining challenges for Romanian bat conservation. These challenges include: (1) applying existing legislation in a focused manner (for example in case of high importance roost), (2) solving legislative paradoxes (ex. high importance caves / bat roosts are protected only regionally), (3) protecting nursery colonies located in historic buildings, (4) limiting the effects of religious tourism, and (5) issues regarding wind energy. Additionally, in early 2019, in a two-stage process, first with the involvement of the Romanian bat research community, then with the involvement of the public, *Myotis bechsteinii* was designated as “Bat of the year 2019” in Romania. With over 600 votes cast publicly, this third edition of the designation was the most successful so far. The report on Article 17 of the Habitats Directive is currently being prepared, and a three-year national monitoring programme is also starting, involving bats, caves and other Natura 2000 sites with bats. For a detailed account of results spanning in the 2011-2018 period, please consult the appropriate sections of the EUROBATS portal.

SAN MARINO:

There have been no major changes in the last period regarding bat protection in the San Marino Republic. Owing to the local experts, the monitoring program and the efforts of conservation of vertebrates in the republic is still on-going, in particular the monitoring of colonies in tunnels and caves. Also outreach activities for schools and public as well as organisation of International Bat Night events are included in the programme of the National Natural History Museum, partially supported by the government.

SERBIA:

Serbia is attending AC24 as an official Party state for the first time. The EUROBATS Agreement was accepted and has been applied in Serbia starting from the 10th of March 2019.

In 2018, the second phase of the national project “Monitoring of Bat Populations and Roosts in Serbia” came to an end, and the third and the final phase began. The results of bat marking in Serbia, covering the period from 1954-2017, have

been published in the “Atlas of Migratory Bird and Bat Species in Serbia”. Secondly, an improved edition of “Bats – the Flying Night-dwellers” has also been published. Both publications have come out as editions of the Natural History Museum in Belgrade. Work has been done on finalizing the monographic publication “Bat Fauna of Serbia” by the Serbian Academy of Sciences and Arts, which should be out in 2019. There are plans to start working in the near future on the “Red Book of Mammals of Serbia”, in which bats would have an important place, and also on the “Atlas of Bats of Serbia”.

The Ministry of Environmental Protection, the Ministry of Education, Science, and Technological Development and the Ministry of Culture and Information of the Republic of Serbia all support bat research. Considering the institutions that are actively conducting scientific research and studies of bats in Serbia, the Natural History Museum in Belgrade and the Institute for Biological Research “Siniša Stanković” should be mentioned as the main ones, as well as the Faculty of Biology of the University of Belgrade, the Scientific Veterinary Institute from Novi Sad and the Environmental Protection Institute of Serbia. A bat rescue and rehabilitation centre has been established within the Natural History Museum in Belgrade.

International Bat Night was held once again a bit later than in the rest of Europe, in order to wait for the beginning of the school year, when more children, the primary audience of IBN events, are present in Belgrade. On the 6th of October four presentations were held, during which informative leaflets were distributed and live bats were shown to around 800 visitors.

SLOVAK REPUBLIC:

In the Slovak Republic, bats (currently 28 bat species occur in Slovakia) are protected under the Act No. 543/2002 Coll. on Nature and Landscape Protection and Regulation of the Ministry of Environment of the Slovak Republic No. 24/2003 Coll., and are listed in the Red List of Mammals of Slovakia (Žiak & Urban 2001). The Red List categorisation for bat species recorded in Slovakia before 2001 was assessed in 2001 National Red List of Mammals (Žiak & Urban 2001) and no new categorisation has been made during the last years. The draft Red list of Carpathian Mammals (including bats) was compiled for the Carpathian region in seven countries (coordinated by Slovak specialists) within the BioREGIO Carpathians project

(www.cwi.sk/files/zbornik_cervene_zoznamy_final.pdf).

The actual overview of the conservation status of habitats and species is available online, to both experts and public at the website: www.biomonitoring.sk and in the

publication *“Monitoring of Animal Species of Community Interest in the Slovak Republic – Results and Assessment in the period of 2013 – 2015”*

<http://www.biomonitoring.sk/CMS/Publication/ListGallery>.

Monitoring data represent the basis for the development of reports on the status of species and habitats of European interest according to Article 17 of the Habitats Directive. The official results of reporting were published in the publication *“Conservation status of habitats and species of Community interest in the period of 2007 – 2012 in the Slovak republic”*. The monitoring of the “Species of Community Interest” and their habitats, as well as reporting on their conservation status every six years to the European Commission is in the responsibility of the EU Member States. State Nature Conservancy of the Slovak Republic is currently (2019) finalizing the report (for the period of 2013 - 2019) on the status of species and habitats of European interest according to Article 17 of the Habitats Directive. In the Slovak Republic, the realized monitoring consists of repeated collection of data in the field, using standardized methods on defined areas, so-called permanent monitoring localities. For the purpose of collection, processing, evaluation, and publishing of the data from the field monitoring, a IT system has been developed – „*Comprehensive Information and Monitoring System*“ (CIMS), which is managed by the professional staff of the State Nature Conservancy of the Slovak Republic. Monitoring is performed by the State Nature Conservancy of the Slovak Republic (including the Slovak Caves Administration) as well as in cooperation with members of non-governmental organisations (e.g. Slovak Bat Conservation Society, Slovak Speleological Society) on behalf of the new project *“Monitoring of species and habitats of Community Interest according to Habitat Directive and Bird Directive”*.

The State Nature Conservancy of the Slovak Republic is working on designating protected areas covering all Natura 2000 sites. In 2017 new protected areas covering Natura 2000 sites with bat species protection were established. Other NATURA 2000 sites with bat species protection already exist, overlapping with existing protected areas (buildings with bat roosts are not included in this network). The total area has increased from 11.9 percent to 12.6 percent of the Slovak Republic territory and the total number of Sites of Community Importance (SCIs) has increased to 642 SCIs (76 of them are for bats).

A lot of management activities have been carried out (e.g. reconstruction of the entrance to the mines, cleaning of churches’ attics, clearing of guano from the attics of many churches). Additionally, activities in co-operation with members of the

speleological groups have been realised such as cleaning and closing of underground sites, elimination of the activities leading to disturbance of bats in their roosts, etc.

The scientific research is performed especially at the Institute of Forest Ecology of the Slovak Republic, Academy of Sciences in the city of Zvolen, and several universities in cooperation with animal rescue centres. The Conference “*Research and Conservation of Mammals in Slovakia*” took place in 2017 (the conference will be organized in 2019 too). The aim of the conference was to present current research results on mammals, including bats, in Slovakia, as well as projects carried out by different organisations. Chiropterological seminars were organized in 2014 and 2018 by the Slovak Bat Conservation Society.

The promotion work includes mainly organising International Bat Night events – State Nature Conservancy of the Slovak Republic as well as the NGO Slovak Bat Conservation Society organised public meetings within the framework of the International Bat Night.

SLOVENIA:

Slovenian bat monitoring results are available in a comprehensive report from 2017 (www.natura2000.si/uploads/tx_library/Netopirji_monitoring_16_17_koncno_Ildel_01.pdf).

The results are mostly similar to those in the previous years, and there is still evidence that roosts in buildings are being regularly destroyed or degraded. To counter this threat, several activities are planned in the new LIFE integrated project for enhanced management of Natura2000 in Slovenia (LIFE17 IPE/SI/000011), where one of the goals is also the creation of a system approach in helping managers of culture heritage buildings to better cope with living with bats.

Activities concerning the 20th anniversary of the International Bat Night in Slovenia were widespread and well attended. Slovenian experts have cooperated with other regional colleagues, particularly with those from Bosnia and Herzegovina.

SWEDEN:

Out of the 19 bat species found in Sweden, more than half of them are still on the Red Data List of Sweden. There are worrying records that very commonly occurring species, like the northern bat *Eptesicus nilssonii*, might be declining in areas where this should not be the case. Further monitoring is needed.

The reporting under Article 17 has made it necessary to try to evaluate both abundance and distribution of bats in all of Sweden. This is something that has not been possible earlier due to the very large areas, 450 295 km², to be covered in

Sweden. The results are still just an estimation, but even so very useful and have brought some new insights.

As reported before, there have been new facts discovered as to which bat species in Sweden are likely to be the most vulnerable around wind turbines. There are ongoing projects concerning the impacts on bats around wind turbines and the distribution of insects, of high-flying insects and bats, and the possibility of reduced mortality of bats around wind turbines using different colours and their intensity. An updated version of the national guidelines for bats (and birds) and wind power plants is being written right now and will be published in 2019.

A report on the impact of LED lights on bats and other species has recently been published: *Effects of Light Emitting Diodes on animals and the natural environment and recommendations: with focus on the Nordic countries and sensitive species and areas*.

A very well attended national conference on bats and infrastructure was held last autumn (November 2018), initiated by the Swedish Transport Administration in need of advice on how to avoid harming bats when building railroads and other infrastructure. This is a very encouraging sign of important agencies being aware of bats in planning processes. The presentations and the summary can be found at the following web site: <http://iene.se/2018-bats-infrastructure/>

On the International Bat Night 2018, there were many very successful events organised throughout Sweden.

Finally, Sweden is well on the way to form BatLife Sweden.

SWITZERLAND:

Bat protection in Switzerland is supported by the Swiss government and its 26 cantons (regional governments). Protection efforts concerning monitoring, national databases, supervision of renovations of buildings with bat roosts, education and public relations, are on the level of the previous years. Several of the 30 Swiss bat species remain under great pressure in densely populated Switzerland, especially the attic using ones and the very light sensitive ones.

Important new developments in 2018:

- Species diversity: based on new analysis of elder tissue (newly dated to some thousand years before present) there is a loss of *Rhinolophus euryale* among the species present in Switzerland. However, a new species has been identified, probably named *Myotis crypticus*. In consequence there are still 30 species present in Switzerland.

- Development and implementation of new educational material about bat rescue and rehabilitation and wildlife management and monitoring according to the new law on animal welfare
- Implementation of a new, (partly) modular based, educational concept for volunteers, professionals, pupils, students and related occupational groups
- Development of new guidelines on wind energy (until 2020)
- Implementation of new guidelines on wildlife corridors with special reference to bats
- Implementation of a new SQL-based online-national bat database (more than 60,000 observations so far)
- Protection and amelioration of 10 selected flight corridors according to the implementation of an ecological infrastructure through human settlement (until 2021)

Ongoing projects and developments:

- Implementation of the action plan of *Swiss Biodiversity Strategy* and the *Swiss species promoting concept*
- Implementation of an ameliorated GIS-based low-cost method to identify potential flight corridors from settlement into the hunting habitat for 200 very important bat roosts using flight corridors (until 2020)
- Implementation of the validation standards of the *Swiss Bat Bioacoustic Group* SBBG about bioacoustic evidences
- Implementation of bats (distribution of species, biology, conservation) in a new Swiss Mammalian Atlas project (publication expected in 2021)
- *International Bat Night* 2018: more than 30 events with more than 4,000 participants
- *World Bat Library* 2018 of Geneva: more than 2,000 new documents indexed and made available for the chiropterologists of Switzerland and representatives of the Eurobats network countries and other regions
- 900 volunteers working to protect bats in Switzerland (mainly monitoring of important bat roosts, public relations and animal welfare and rehabilitation)

UKRAINE:

The bat workers of Ukraine continue with bat research and conservation activities that have started earlier. Recently a set of bat papers was published, united in the issue of *Theriologia Ukrainica* journal. The volume was issued with the kind support of the EUROBATS Secretariat. All articles are open access and available on-line at the journal web-site (<http://terioshkola.org.ua/en/library/pts16-bats.htm>).

NON-PARTY RANGE STATES:

ARMENIA:

The following activities should be highlighted for Armenia for the period after MoP8:

- For the first time in Armenia, the conference “Bats of Eastern Europe” was organised at the end of October 2018. The organisation of the conference was possible due to the help of EUROBATS small grants. With participants from 11 countries, the conference had a great impact for the country and the region. A small abstract book is available at: www.armbar.org.
- In December 2018 there was a regional meeting for Key Biodiversity Areas (KBA), where the distribution of large mammals as well as several small mammals was discussed. The bats and their habitats were included in the ecoregion conservation plan.
- For the first time a wind farm is planned to be built in Armenia and the pre-construction monitoring has started. The company that ordered the monitoring work had a special request that all monitoring was done in accordance with EUROBATS guidelines for wind turbines and bat population.
- The Armenian-Belarusian governmental project, during which several bat species phylogeography were studied, has been finalised. The results will be published soon. The Armenian-German project is still on-going, and a small movie was made by Robert Brikmann about the joint project and the field trip done last year. This movie will be used for educational trainings.
- This winter two calls were received from people who found bats in their buildings. One was from a school and another one from an office of the Armenian branch of NABU. Both bats were males of *Pipistrellus kuhli*. They hibernated at the University in Yerevan and got released in March 2019.

AZERBAIJAN:

There is no significant progress to be reported since MoP8. Neither the CMS Convention nor the EUROBATS Agreement have yet been ratified by the Azerbaijani government. A follow-up meeting with MENR officials (Ministry of Environment and Natural Resources) to discuss the ratification perspectives for the EUROBATS Agreement took place in March 2019. MENR again highlighted the importance of joining the CMS Convention as well as EUROBATS. MENR representatives committed to re-start the application process and the discussion with the MEAs to review the necessity of the ratification process.

The Institute of Zoology has launched a three-year research project on existing and potential habitat range mapping of some Red Data Book species. Four bat species with higher protection status are also being covered by the scope of this work. From 34 registered bat species in Azerbaijan, 12 are in the Red Data Book of Azerbaijan. Within the framework of UNDP, a short-term project was conducted to investigate mammals in four National Parks of Azerbaijan located on the migration routes along the eastern coast of the Caspian Sea. The scope of the project also covered pre-dominant bat species inhabiting the investigated national parks. Some other small-scale bat research projects are also on-going within protected and non-protected areas of Azerbaijan – particularly in the coastal territories.

However, there is no established systematic or sustainable monitoring process for bats in Azerbaijan: The studies are conducted very randomly, non-systematically, and the shortcoming with regard to bat experts availability remains the same for many years.

Three International Bat Night events, targeting a certain group of audience, were organised by one of the NGOs in 2018.

BELARUS:

Since MoP8 the following bat research projects are on-going in Belarus:

- Research on species composition and genetic structure of *Pipistrellus*, *Myotis* and *Plecotus* species complexes at the National Academy of Sciences
- Bat research within the framework of the project “Polesia - Europe's largest wilderness area”, supported by the Frankfurt Zoological Society and partners
- The joint Armenian-Belarusian project “Phylogeographic analysis of bat populations of Belarus and Armenia” has been completed and, as a result, the phylogenetic structure of six bat species from Armenia and Belarus was analysed and the general model of postglacial recolonization of Eastern Europe was proposed. This successful collaboration will be continued.

At the Centre for Bioresources of the National Academy of Sciences a genetic bank of wild fauna has been created, and it continues to replenish. At this moment there are more than 400 bat tissue samples of 16 species.

The first Belarusian bat rehabilitation centre, called “Kazhanapolis”, was officially opened in Minsk last winter. During hibernation season more than 40 individuals of *V. murinus*, *E. serotinus*, *E. nilssonii* and *M. daubentonii* from five cities were received.

Popularisation activities keep increasing – during the last months bat-lectures in more than ten Belarusian cities have been held within the framework of different

educational initiatives, lots of interviews were given, articles were published, etc. Recently, a bat event has been held during which bats that successfully hibernated in the Bat rehabilitation centre were released.

The Ministry of Natural Resources and Environmental Protection of Belarus recognises the importance of joining the Agreement, and, in cooperation with the National Academy of Sciences, it is preparing all necessary documents.

BOSNIA AND HERZEGOVINA:

In the period since the last report, the winter cave monitoring has continued as well as monitoring in the protected area of Bijambare near Sarajevo. In this small area, until now, there have been seventeen registered bat species. Among them is the Pond bats (*Myotis dasycneme*) in Srednja Bijambarska cave for three consecutive years. This site is the southernmost site of this species in Europe. The total number of bat species in Bosnia and Herzegovina is 31. There is no list of protected species at the state or entity levels. Since Bosnia and Herzegovina has acceded the Agreement, the Center for Karst and Speleology has warned all relevant entity ministries about this. There are 27 bat species on the Red List in Republika Srpska, and 19 bat species on the Red List in the Federation of Bosnia and Herzegovina. Finally, it should be mentioned that a traffic sign has been installed warning about the presence of bats as part of the attempt to protect the bats in the cave / tunnel Ponikva near Vareš in central Bosnia. The sign has been installed due to the registered collisions of bats with vehicles. There are seven bat species settled in the cave / tunnel. The installation of this traffic sign has attracted attention of all the media in Bosnia and Herzegovina and the region.

LEBANON:

Three sites have been selected for wind farm projects. One project has already been studied and two are on the way. The government is very strict concerning wind farms and bat conservation. It requires assessment for the project site and strict application of mitigation measures. This is also supported by the funder of the project. Moreover, EUROBATS guidelines on wind farms will be applied.

Regarding bat monitoring and surveys, new sites and colonies are being documented. And wind farms investors are also being involved in bat protection.

Public awareness raising is ongoing through the Animal Encounter Centre as well as the media:

- Many activities towards bat conservation have been conducted in different villages in cooperation with local municipalities.
- Several citizens' calls have been responded to concerning bats in their vicinities.

- Bat Night is gaining popularity among the public.

Regarding the accession of EUROBATS, there has been some positive advancement but due to the government having other priorities, the advancement is slow.

MOROCCO:

Among the thirty bat species in Morocco, at least eighteen are within the range of European bats. The discovery of a what is considered as a new species is good news for the biodiversity of Morocco's bats, however, at the same time there is frustration and surprise that no one has been informed in advance, neither the scientists, nor the administrative authorities, of the investigations carried out in Morocco.

Moroccan interest in bats is on-going. An action plan has been defined as a result of the workshop on bat conservation in North-western Africa held in July 2018. The implementation of this action plan has started by the speleologist training program on the conservation of biodiversity (in the initial phase), and on the knowledge and conservation of bats (in the second phase).

Current research on the Moroccan bats is focusing on their ecology and distribution, including some student Master theses. Further studies are required to update the bat fauna of Morocco, in addition to the urgently required efforts for public/schools and policy-makers awareness raising.

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.

SAUDI ARABIA:

Monitoring of bats species has continued as planned in the previous years through extensive field studies to update the distribution of Saudi bats along with their status. Identification efforts have focused on the southwest of the country which is recognised as one of the world hot spots. Bats identification has expanded to a molecular level, using their DNA sequences for phylogeographical analysis.

In 2018, Saudi Wildlife Authority held a workshop to update the Red List of the Mammals of Saudi Arabia.

Regarding public health issues, screening for the presence of MERS-CoV in several bat species has continued, with all screened species being negative.

The unusual summer heat in recent years raises a concern about bats tolerance to withstand the high ambient temperature, which might cause hyperthermia and then higher mortalities. This issue probably requires an immediate monitoring program

throughout the southern part of EUROBATS Range States as it might cause range shift/expansion, especially for range-restricted species.

TURKEY:

There is no news about the ratification of the Agreement. Based on a new study (Çoraman et al., 2019), there are two new species for the country and neighboring regions. These new species are: *Myotis hovei* stat. nov. (previously regarded as *M. nattereri hovei*), currently known from the coastal zones of southeastern Mediterranean in Turkey and Israel; and *M. tschuliensis* stat. nov. (previously as *M. nattereri tschuliensis*), currently found in eastern Turkey, Georgia, Armenia, Russia and Ukraine.

TUNISIA:

For the period since MoP8, a few points should be highlighted:

- Meetings have been conducted with the Ministry of Agriculture and the Ministry of Environment to solve the problem regarding the conservation of bat roosts related to the closing of caves by the Ministry of Defense for security reasons. Another relevant issue discussed was related to a windfarm in the army area where no study was authorized for the time being, though the security situation seemed to be improving. Direction de foret in Tunisia will shortly be arranging a meeting with relevant contacts in Ministry of Defense to discuss future collaborations.
- The discussion with the CMS focal point and the forest director about the ratification of EUROBATS has very much advanced, and, henceforth, the Secretariat can contact the Ministry of Foreign Affairs in Tunisia to start the ratification procedure.
- Many field surveys conducted in collaboration with speleologists and in collaboration with scientists from Algeria are on-going

OBSERVERS:

Croatian Biospeleological Society/ HBSD (Croatia):

The society has continued its work on bat research and awareness raising among cavers, young researchers, and the general public.

Regarding its research activities, it should be highlighted that permanent monitoring of bats in the cave Veternica has continued. During the winter survey several dead specimens (*Rhinolophus*) were found, which were then passed for further analysis. The society has also conducted several other bat research activities in Croatia (cave Lokvarka, National Park Plitvice).

Croatian biospeleological society (Hrvatsko biospeleološko društvo/HBSD) has been a part of the active rabies surveillance in bats in Croatia as part of the project

BatsRabTrack. The presence of antibodies for lyssavirus have been demonstrated, thus indirectly proving the circulation of rabies among bats in Croatia at some locations.

Two of the society's members have joined the COST action CLIMBATS and they hoped to contribute to this action as much as possible.

Moreover, the society's members took part in the winter census in Nietoperek, Poland, during January 2019.

Regarding awareness raising, the society has been a part of the Bat Night Events organised in National Park Plitvice and Baraćeve Caves. Furthermore, in collaboration with Vincent Wildlife Trust, Technical Museum Nikola Tesla, and the Public Institution Lokrum Reserve, the society members have been authors of the exhibition "Technologies in Biology: Bats". The exhibition is showing the results of a two-year study of bats on the island of Lokrum, with the emphasis on *Plecotus kolombatovici* and its roosts, flight paths, and ecology, with the use of telemetry. The study has been carried out with the colleagues from Vincent Wildlife Trust.

Association for Bat Conservation Tragus (Croatia):

Tragus (Udruga za zaštitu šišmiša Tragus) has continued monitoring bat fauna in Vrlovka cave, with the aim to harmonize the high conservation standards of this Natura2000 site and the visiting program in the cave that opened for public in 1928. In order to raise public awareness, especially of local people, Tragus took the main role in organising the 1st Vrlovka cave Day, where lectures were held on the importance of the cave for bats, but also as a site of high archaeological value.

After the summer period research in Nature Park Žumberak – Samoborsko gorje in 2017, two selected objects – Rogovac cave and Pušina pit – were monitored as possible hibernacula. Also, two important sites for bat populations in Nature Park Papuk – Uviraljka cave and Suhodolka pit – were monitored during the period when maternity and hibernating colonies could be expected. The most important result was the confirmation of Uviraljka cave as the only site in Croatia with the presence of *Myotis dasycneme* individuals during hibernation. Also, possible presence of *Pseudogymnoascus destructans* was visually confirmed on other *Myotis sp.* individuals in the same colony. Traditionally, Tragus conducted research on selected localities in National Park Brijuni, which so far resulted with proven presence of 16 species on the island. *Nyctalus lasiopterus* individuals were captured again (16 males and 1 female), and the results of analysis of mitochondrial DNA diversity, taken from *N. lasiopterus* individuals in 2017, were published in the poster presentation *Sindičić, M., Mazija, M., Domazetović, Z.,*

Gomerčić, T. (2018): *First data on mitochondrial DNA diversity of giant noctule (Nyctalus lasiopterus) sampled in Croatia* (<https://www.bib.irb.hr/955999>). During 2018, Tragus conducted expert studies on bats as part of the Appropriate Assessment procedures for Highway A7, section Selce - Novi Vinodolski, and for the road section Saborsko - Rakovica. A two-year bat monitoring programme on the wind farm Lukovac is underway.

As a freelancer, Mirna Mazija has compiled a protocol for monitoring of forest bat species with focus on *Myotis bechsteinii* in the park architecture monument Park Maksimir. In the scope of this project, a new prototype design of bat houses to be placed in the park is being developed, in cooperation with Croatian product design experts and design students.

Tragus has taken part in the International Bat Night events in Nature Park Medvednica, National Park Brijuni, the city of Krapina, Baračeve caves and on cape Kamenjak. These events were organised by the public institutions responsible for the protected areas. Tragus members led guided tours with bat-detectors, gave educational lectures and took part in creative activities for children (bat memory game, painting bat drawings, bat origami, bat tattoos for kids etc.).

The French Mammal Society/ SFEPM (France):

SFEPM (La Société Française pour l'Etude et la Protection des Mammifères) is the French society for the study and protection of mammals. Its different groups gather scientists and naturalists on a voluntary basis. Once a year, the National Bat Coordination gathers the regional bat representatives to summarize what has been achieved in terms of monitoring and conservation and to discuss future projects and actions endorsed by SFEPM. At present, the main objective is the implementation of actions foreseen by the national plan for bats at the administrative regional level.

As SFEPM already submitted two reports in 2018, at the AC meeting in Estonia and at the MoP in Monte Carlo, only the number of events organized in 2018 for the International Bat Night should be updated – in total 320 events were organised. The SFEPM has completed the 2018 reporting on bats under Article 17 of the Habitats Directive. Finally, its EPI project on *Nyctalus lasiopterus* in partnership with the Estación Biológica de Doñana in Spain is delivering good results.

Federal Association for Bat Expertise in Germany/ BVF (Germany):

Besides several base activities last year, the Federal Association for Bat Expertise in Germany (Bundesverband für Fledermauskunde Deutschland e.V./ BVF) had several focal points:

- With the purpose of establishing standards in the daily work on bats and qualifying experts and consultants, a series of workshops was carried out in cooperation with the IZW in Berlin. To spread the idea of qualification, the BVF supports the development of centralised and standardised methodical and juristical trainings of voluntary experts in the federal states of Baden-Württemberg and Thuringia.
- Wind energy is still a subject of major interest. A dialogue forum between conservationists, authorities, and industry has been established and organised by the Competence Centre for Nature Conservation and Energy Transition. The outcome of this first moderated debate, dealing especially with advanced trainings for federal agencies and standardization for expert opinions, is in preparation and will soon be published.
- In addition, the BVF has collaborated with the IZW Berlin and the NABU to organise the first meeting on evidence-based bat conservation during wind turbine projects, which was well attended. The BVF also took part in several workshops on interactions between bats and wind turbines.
- The BVF is supporting a long-term research-project carried out by the Stiftung FLEDERMAUS, the Naturstiftung David, the NABU divisions of Lower Saxony and Baden-Württemberg, and the University of Greifswald, focusing on the western barbastelle, aiming to develop and alter ways of a sustainable forest management. The project funded by the Federal Agency of Nature Conservation (BfN) has just started and is planned to run over the next six years. It should develop ways to protect and promote the western barbastelle in managed forests. The study site is located over the whole of Germany, however, also European expertise should be integrated in the project. In the first part of the project, a monitoring will be carried out including studies on the genetic diversity of barbastelle colonies. After this introductory part, a practical approach implementing different ways of improving barbastelle habitats will be established. In 2024 an expert conference on the results of the project is planned, and there will also be a printed “Handbook of barbastelles in forests”.
- A nationwide, citizen-scientist based monitoring of common noctules will start in spring 2019. The project is based on an easily accessible approach of counting the activity of common noctules and will provide phenological data on common noctules.

Leibniz Institute for Zoo and Wildlife Research/ IZW (Germany):

Over the past year, IZW (Leibniz-Institut für Zoo-und Wildtierforschung) has continued its research on migratory bats in collaboration with Professor Pētersons

from Latvia, and, particularly, on offshore bat migration with NABU Mecklenburg-Vorpommern, a project financed by the Federal Agency for Nature Conservation. IZW has started two projects funded by the German Federal Environmental Foundation (DBU), one on bat-wind turbine interactions and one on the effect of wind turbines in forests on local bird and bat assemblages, the latter in collaboration with the University of Marburg.

IZW is currently launching a research project on bat citizen science projects (funded by the German Ministry for Education and Research) in which it teamed up with the Berlin based NABU group “BatCities”.

IZW has offered training workshops, partly in collaboration with the Federal Association for Bat Expertise in Germany.

IZW has also organised a conference with more than 300 participants on evidence-based bat conservation during wind turbine projects (in German) in collaboration with the Federal Association for Bat Expertise and NABU BFA bat conservation.

IZW would also like to announce an upcoming conference for 2020 – the sixth International Berlin Bat meeting. It is a topical meeting addressing the human perspective on bats, which will deal with topics such as human-bat conflicts, the human perception and emotions towards bats, ecosystem services of bats, one health aspect, killing, culling and hunting, education about bat conservation and bat citizen science projects. Anyone interested in joining is more than welcome to visit the 6th IBBM between 23-25th of March 2020. The web page will be launched during the following days and weeks.

With the help of experts, IWG members, and the EUROBATS Secretariat, the IZW has finalized the EUROBATS guidelines for the Consideration of Bats in Outdoor Lighting Projects.

Lastly, members of the IZW have given presentations during scientific conferences, institutional seminars and stakeholder workshops.

BatLife Macedonia (North Macedonia):

In recent years, North Macedonian bat fauna has reached the number of 30 species with the latest additions of the Bechstein’s bat, the Alcaethoe whiskered bat, and the Greater Noctule.

New important roosting sites have been discovered in eastern parts of North Macedonia and the first preliminary list of key underground sites is to be prepared in the upcoming years.

Regarding wind farms, there is still the same problem of the absence of bat monitoring in currently the only wind farm in the country. Access to the wind farm

area is forbidden and, in addition to the fact that the project lacked a preconstruction survey of bats, activities which are contrary to the EUROBATS guidelines on bats and wind farms have been recorded in 2019 - i.e. planting of 3,000 pine trees at the wind farm site, between wind turbines.

Finally, the first Macedonian guideline for consideration of bats in wind farm projects has been prepared, which represents an adaptation of EUROBATS guidelines to the national conditions.

BatLife Macedonia activities are limited and mostly dependent on the business sector and development projects (biodiversity and environmental impact assessment studies) and small-scale projects supported by EUROBATS.

Polish Society for Nature Conservation /PTOP “Salamandra” (Poland):

An updated list of important underground bat shelters has recently been prepared in Poland, with contributions of bat researchers from all regions of the country. The list of 64 sites used by 200 or more bats to hibernate is ready and will hopefully be published soon.

Last year it was discovered in south-west Poland that bats use the cavities created in trees by the larvae of the great capricorn beetle (*Cerambyx cerdo*). Bats hibernating in *Cerambyx* cavities were noted in over 50 percent of the monitored trees. All bats belonged to the genus *Pipistrellus* and individuals identified to the species level were *P. nathusii*. The study results emphasise the importance of this beetle species as an ecosystem engineer. The protection of the great capricorn beetle can, therefore, be an important component of the conservation of tree-dwelling bats.

Last year in a couple of cities in Poland a number of bat walks were organized within the framework of the International Bat Night. There was a big interest among citizens in this form of activity. It will, therefore, be continued and developed.

NGOs are providing trainings to municipal police in some cities, so that trained officers of those forces can react properly on simple cases like bats found in apartments or on the ground. They release such bats from anthropogenic traps or, if needed, transport them to rehabilitation centres. It is a significant help for bat conservation organisations in these cities. So far, this approach has had success just in a few big cities like Poznań or Warsaw, but there is hope that it will gradually develop throughout the country.

In Poland, there has been continuous struggle with the obligation to establish a contamination zone of a 5-km-diameter for 3 months each time a bat with rabies is discovered. Such decisions, which usually have no scientific background and

practical sense, are forced by the veterinary law. These cases use to have much higher media coverage than any positive messages, including International Bat Night. This has an important adverse impact on the society's attitude to bats and continuously diminishes the effect of educational efforts. It seems that there is little chance to change the situation on the county level. Thus, PTOB "Salamandra" (Polskiego Towarzystwa Ochrony Przyrody "Salamandra") would like to kindly ask EUROBATS to consider the possibility of urging the EU authorities to undertake proper changes in the Community veterinary legislation, which would exclude bat cases from the standard procedure for dealing with rabies. In our opinion EUROBATS Resolution 5.2 from 2006 on this regard does not cover this problem sufficiently, therefore, its revision and amendment should be discussed.

Wilderness Research and Conservation NGO, Institute of Speleology "Emil Racoviță" Cluj-Napoca, and S.C. EPC Consultanță de Mediu S.R.L. Consultancy Company (Romania)

In Romania, there are more than 1,000 wind turbines already built and more to come in the following years. With the help of the IZW as well as the colleagues from Ukraine (Harkiv Bat Group), it has been determined that 90 percent of the *Nyctalus noctua* populations in the Western Black Sea area are migratory, with origins in central Russia. Curtailment measures (6.5 m/s cut in speed and 13°C temperature threshold) have been implemented in only two percent of the total number of turbines in Romania, achieving promising results – reducing more than 70 percent of the initial impact while losing less than one percent of the energy production. Post construction monitoring regarding bat impact has been conducted in ca. ten percent of the turbines, however, the methods are not uniformly applied. A total production of 30,000-50,000 carcasses per year in the Dobrogea migratory area (Western Black Sea area) has been determined. A national guideline for reducing bat impact on wind turbines has been developed. The work has been done by the S.C. EPC Consultanta de Mediu S.R.L. Company in collaboration with the Institute of Speleology "Emil Racoviță", Cluj-Napoca.

Within the Institute of Speleology "Emil Racoviță", ten show caves have been monitored, including other natural sites, and the impact of cave tourism on bat populations during hibernation and maternity (more than 13,000 bat individuals and 10 species) has been observed. The microclimatic conditions in the caves have been monitored via the CAVEMONITOR project, and sensible areas where tourism needs to be reduced during sensitive periods have been identified.

Bats migrating 200 km away from the coast, in the Black Sea (*N. leisleri*, *P. kuhlii*, *P. nathusii*, *P. pipistrellus*, and *P. pygmaeus*) have been found.

Additionally, the first *N. lasiopterus* in the Dobrogea area has been captured, which is the first capture of this species in more than 40 years of research in Romania, and a monitoring program to identify more information about its populations has been started.

A Wildlife Rehabilitation Centre in Bucharest (Wilderness Research and Conservation and “Visul Luanei” Foundation) has been developed, where, starting from 2014, more than 1,000 cases of bat relocation, rehabilitation, and release per year take place. The centre has developed a network of veterinarians, biologists, and volunteers, which manage the impact of human-bats conflicts in the city. The centre has also started the first radio tracking (VHF) project in Romania, within the Bucharest area (*N. noctula*, *P. nathusii*, *P. pipistrellus*, *P. kuhlii*, *P. pygmaeus* and *V. murinus*). It has also mapped the distribution of human conflict cases. Additionally, the centre has also developed an urban bat best practice guideline for reducing bat impact and has modelled a feeding connectivity network in the city (GIS), covering land use, building height, building construction date, type of vegetation, tree species and height, traffic data and other linear barriers.

The centre has also sustained multiple educational programs, including the International Bat Night (2017-2018). It has organised school presentations regarding the importance of bats (more than 3,000 school children) and bat walks in Văcărești Natural Park. A new diorama in the „Grigore Antipa” National Museum of Natural History, as well as multiple PhD-, bachelor- and master’s theses resulted from the centre’s projects.

Institute for Biological Research “Siniša Stanković”(Serbia)

Members of the institute’s department of genetic research participated in all the bat research activities listed in the official country report. Additionally, the institute (Institut za biološka istraživanja "Siniša Stanković") continued collaboration with Gabor Kemenesi from Virological Research Group, Szentágothai Research Centre (University of Pecs, Hungary) on investigation on viruses present in bats. In 2018 it started collecting blood samples for screening on the presence of Lloviu virus that recently re-emerged in Hungary, causing mass mortality events in *Miniopterus schreibersii*.

Spanish Bat Society/ SECEMU (Spain):

SECEMU (La Asociación Española para la Conservación y el Estudio de los Murciélagos) wished to thank the Secretariat for facilitating its participation at the

EUROBATS meeting again. Words of gratitude were also addressed to Mr. Borja Heredia, who was attending the EUROBATS meeting as an observer representing the Spanish Ministry of Ecological Transition.

Regarding Spanish accession to EUROBATS, SECEMU has recently met with the Ministry, and, although the Ministry representatives explained that there were some financial concerns, they did show some interest.

Biannual Bat Conferences are organized by SECEMU with the aim of putting in contact bat researchers and conservationists from Spain, Portugal, Gibraltar, and Andorra. In 2018 the seventh Bat Conference was held in Gibraltar for the first time. Additionally, SECEMU is collaborating with the Ministry of Ecological Transition in the selection of outstanding bat refuges and in the design of actions to guarantee their conservation (three every two years). SECEMU has also attended a meeting with the Ministry regarding wind farm bat mortality to improve impact assessment studies, management and mortality prevention.

During the period of 2017-2018, virus surveillance was very active in close collaboration between regional NGOs, wildlife rescue and rehabilitation centres, and academic institutions.

The Journal of Bat Research and Conservation, directed and managed by the Spanish Bat Society, has substantially increased its editorial reviewer team with international bat scientists and researchers, has updated its format, and the website. Currently, it contains fully available publications from all continents and covers several different topics. The AC24 participants are highly encouraged to use it to disseminate their findings, as well as to actively contribute to it: <http://secemu.org/journal-of-bat-research-and-conservation/>

Regarding educational initiatives, over 50 International Bat Night events were organized across the country, either coordinated by SECEMU or by local groups.

Two previously unnamed forms within the *Myotis nattereri* species complex have finally been described as species: *Myotis crypticus* and *Myotis zenatius*. The first occurring in Spain, France, Italy, and Austria, and the second in Morocco, Algeria, and possibly Tunisia.

Finally, SECEMU has tried to promote the change of category for *Rhinolophus mehelyi* from “Vulnerable” to “Endangered” in the IUCN Spanish Red List. However, the Ministry of Ecological Transition has declined SECEMU’s request due to the lack of evidence.

Ecocom AB (Sweden):

Ecocom is an environmental consultant firm, working in all of Sweden. It conducts impact environmental assessments before the construction of wind farms or residential areas, as well as control programs after the construction of wind turbines. Owing to its collaboration with researchers, Ecocom is also involved in a research program comparing bat activity at the ground level versus bat activity at the nacelle level in wind farms. Finally, last year Ecocom started a project that aims at monitoring bat activity under a long period of time in order to learn more about Swedish bats. Between April and December 2018, Ecocom registered bat activity every night at three stations. This year, the project continues at the same stations, including two new places.

Bat Conservation Trust/ BCT (UK)

BCT's bid to the National Lottery Heritage Fund for the "Bats in Churches" project has been successful, and a five-year delivery phase started in December 2018. This is a collaborative project, where BCT will be working with Natural England, Historic England, Church of England and The Churches Conservation Trust. It is hoped that this project will begin to address issues experienced by a small number of churches in England with large populations of bats.

Last year BCT published the latest national guidance on bats and artificial lighting, in partnership with Institution for Lighting Professionals (ILP) and Clarkson & Woods ecological consultants. Also on the lighting front, BCT will be running its second Bats and Artificial Lighting Symposium on the 21st of May, 2019. As in the case of the previous symposium, BCT will aim to bring together experts from academia, the lighting industry, and conservation to share their learning and experiences of best practice in terms of lighting and its impact on bats.

BCT has completed the fieldwork and desk studies for its mitigation project, which is focusing on the effectiveness of roost mitigation. It is now in the analysis stage and the report should be available in the next couple of months and will feed into national guidance in the coming year.

Finally, thanks to the support from its bat groups, BCT has some funding to take forward its plans for a centralised bat ringing database in the UK. BCT will be progressing this in the coming year.

As a UK government representative is not present at AC24, BCT would also like to mention that UK national guidance on wind turbines was published in January this year. – it can be found on the Scottish Natural Heritage site:

<https://www.nature.scot/sites/default/files/2019-01/Bats%20and%20onshore%20wind%20turbines%20-%20survey%2C%20assessment%20and%20mitigation.pdf>

Vincent Wildlife Trust/ VWT (UK):

Following a review of its operations and a more strategic approach to the delivery of its Conservation and Science work, Vincent Wildlife Trust (VWT) has restructured its bat team and has strengthened the science skills in the organisation. Along with this, the day to day wardening of its 40 bat reserves and the colony monitoring are increasingly being undertaken by its volunteers, freeing up VWT staff to undertake more bat project development and delivery. This shift in strategic direction will also see an increase in its wider European work over the period from 2020-2030.

The colonies in its bat reserves continue to thrive, with the half of Britain's greater horseshoe bat population and significant regional populations of lesser horseshoe bats in Britain and Ireland protected in these sites. VWT continues to develop ideas around artificial roosts for these species and, in conjunction with The Mammal Society, it ran a very successfully international symposium on Bat House in the summer of 2018.

Much of VWT's research on bats is being undertaken in partnership with Professor Fiona Mathews' group at the University of Sussex. Following the completion of his PhD thesis in early 2018, Dr. Patrick Wright undertook a six-month post-doc researching the feasibility of establishing a national monitoring scheme for the Bechstein's bat using molecular techniques. This was completed in January 2019 and has demonstrated the viability of this approach. Funding applications are in, with the aspiration to start the monitoring scheme in 2020.

Landscape permeability in greater horseshoe bats is the subject of another PhD thesis part-funded by VWT with the University of Sussex. This has successfully used Circuitscape modelling to predict bat movement through the landscape at a very fine scale in south-west England. The tool has applications for informing planning and development, as well as for targeting conservation interventions such as habitat enhancement or creation. The student has demonstrated the transferability of this technique by completing a VWT contract applying the technique around a group of its lesser horseshoe bat reserves in Wales. The outputs of this analysis are being used to pilot a habitat enhancement project in the area, with plans to also employ the technique in areas of Ireland.

A second thread to this PhD is investigating the effects of traffic noise on commuting bats, using a Phantom Road technique. A paper on this is under review. VWT is also funding a new PhD thesis with the University of Sussex on barbastelle. A student has been appointed and will take up the position in May 2019. This study will focus on Woodland management and the landscape scale aspects of the selection of woodlands by maternity colonies.

Following on from its collaborative work with the Croatian Biospeleological Society (HBSD) on *Plecotus kolombatovici*, the work was featured in an exhibition opened in February 2019 at the Nikola Tesla Technical Museum in Zagreb. The exhibition, entitled "Technologies in Biology: Bats", was a collaboration of the museum, the authorities on the Island of Lukrum, HBSD, and VWT. Further work by VWT and HBSD on *Plecotus kolombatovici* in Croatia is planned for summer 2019.

BatLife EUROPE

As mentioned at MoP8, BatLife Europe is now registered as a Stichting in the Netherlands. This has been a long process, but all trustees are now registered and BatLife EUROPE has a new bank account in the Netherlands. It hopes that having a European bank account will make the payment of membership fees easier. BatLife EUROPE had to postpone the issuing of invoices for 2018 until the bank account was active, but it has now sent invoices for 2018 and 2019.

BatLife EUROPE has also been making changes to its website, including a new 'partners page' featuring further information about each of its partner NGOs, including a logo, website details, and a short biography.

The lesser horseshoe bat has continued as Bat of the Year in 2019, and BatLife EUROPE have been successful in raising awareness about the lesser horseshoe on social media with the use of infographics. These have been translated into a number of different languages and have been shared by many organisations and individuals.

2019 will have some new challenges: The joint EU-EUROBATS Species Action Plan on Bats has finally been published by the Directorate-General for Environment, and BatLife Europe will keep encouraging DG Environment to work with the European bat conservation community to implement the plan.

Furthermore, BatLife EUROPE is making preparations for a new bat of 2020, and will be asking its partners to help choose the species over the coming months.

Finally, BatLife EUROPE will be trying to complete the update to the pan European Hibernation indicator this year if possible. Mr. Presetnik will be giving a presentation on the indicator at AC24.

7. Secretariat report

The Executive Secretary drew attention to Doc.EUROBATS.24.4 and wished to point out a few things.

The staff of the Secretariat remained the same, with one unfortunate difference being that the post of the Scientific Officer was again reduced to 50 percent due to budgetary constraints. As soon as the financial situation would allow for it, the post occupancy would be increased. The Standing Committee would review the availability of funds on a yearly basis. The Secretariat also planned to call for additional voluntary contributions to finance the increase in the post occupancy. Furthermore, the Secretariat hoped that the accession of new Parties would assist in getting back the post occupancy to at least 80 percent. This was of crucial importance because the amount of work associated only with coordinating the IWGs and with producing publications was impossible to manage with the Scientific Officer staying employed at 50 percent only.

Regarding the Agreement membership (recruitment of new Parties), Mr. Streit reminded the participants that Serbia has completed its accession to the Agreement and that it became a Party starting from the 10th of March 2019. The Accession of Bosnia and Herzegovina was expected to happen in the near future. Regarding EUROBATS Projects Initiative (EPI), Mr. Streit stated that EPI continued to be important and demanded among young scientists. The written report of the Secretariat contained a list of projects selected and funded within the EPI framework in 2018.

Considering outreach and other activities, the Secretariat was pleased to announce that the new EUROBATS Publication Series No. 9 entitled “Guidance on the conservation and management of critical feeding areas and commuting routes for bats” was finalised and published by the Secretariat in March 2019. Additionally, in October 2018, EUROBATS Publication Series No. 8 “Guidelines for consideration of bats in lighting projects” was released and 2,000 copies were printed. In general, the demand continued to be extremely high for EUROBATS publications. 3,825 copies of publications were shipped by the Secretariat from the beginning of April 2018 until the end of March 2019. This was a further evidence of the good work the IWGs were doing, which in the form of published guidelines was distributed to the broader public.

In conclusion, Mr. Streit mentioned that the joint EU-EUROBATS Species Action Plan on Bats (2018 - 2024) for all bat species was approved in November 2018 and was in force. The Action Plan had a big political importance, also because it

opened new projects and project funding possibilities – the Action Plan should have positive impact on the funding priorities for conservation projects among EU member and accession states.

8. Election of Chair and members of the EPI Evaluation Group

Professor Russo thanked the Chair of the EPI Evaluation Group, Professor Stéphane Aulagnier (France), as well as the members of the group for their good work and asked them if they were willing to continue doing so in the future. Professor Aulagnier was glad to continue chairing the EPI Evaluation Group. A new member appointed to the EPI Evaluation Group was Mr. Ioseb Natradze (Georgia). All the previous members confirmed their willingness to continue their work: Ms. Daniela Hamidović (Croatia), Dr. Lena Godlevska (Ukraine), Mr. Tony Hutson (United Kingdom), Mr. Peter Lina (Netherlands), Professor Branko Micevski (North Macedonia), Professor Zuhair Amr (Jordan), who was not present during the meeting.

9. Reports from Intersessional Working Groups (IWG) of the past quadrennium

1. IWG on Bats and Wind Turbines

The Convenor of the IWG, Dr. Luisa Rodrigues (Portugal), explained that the 2nd revision of the guidelines, approved by MoP7, was published in 2015 as EUROBATS Publication Series No. 6. The IWG prepared updated reports to present to all AC meetings as well as a draft resolution for MoP8.

Since Resolution 8.4 requested the Advisory Committee to continue to compile relevant information and, if required, to update the generic guidelines, the IWG should be maintained. The Convenor requested a meeting during 24AC to discuss the workplan for the next quadrennium and several other issues.

2. IWG on Bats and Light Pollution

The Convenor of the IWG, Dr. Christian Voigt (Germany), stated that the IWG had finalised the guidelines for considerations of bat conservation during outdoor lighting projects. The guidelines were published in autumn 2018 as EUROBATS publication series No. 8. Further, the IWG finalised a resolution for submission to the Meeting of the Parties in Monaco in fall 2018. The resolution was adopted without any major changes. The IWG compiled a list of publications that had been published since the release of the guidelines until AC24, and it intended to convene during this meeting.

3. IWG on Monitoring of Daily and Seasonal Movements of Bats

The Convenor of the IWG, Dr. Dino Scaravelli (San Marino), explained that the IWG had prepared a draft resolution which was adopted at MoP8 in Monaco. He further stated that the IWG planned to meet during AC24 to discuss its further programme of work.

4. IWG on Bat Rescue and Rehabilitation

The IWG was co-convened by Dr. Lena Godlevska (Ukraine) and Dr. Helena Jahelková (Czech Republic). Dr. Jahelková explained that some progress had been made with regard to the production of the guidelines. A new draft of the document had been prepared and the IWG would like to convene during this meeting to discuss it.

5. IWG on Bats and Insulation

One of the Co-Convenors of the IWG, Dr. Helena Jahelková (Czech Republic), explained that the IWG had not yet completed its work, and that it would meet during AC24, also to discuss a workshop on this topic that was to take place in the Czech Republic.

6. IWG on Recommended Experience and Skills of Experts with regard to Quality of Assessments

The IWG was co-convened by Ms. Ruth Petermann (Germany) and Professor Danilo Russo (Italy). Ms. Petermann explained that in the last four years the IWG had prepared a list of standard skills, knowledge, and experience required for doing environmental assessments on bats concerning plan and projects. The IWG also drafted a resolution which was adopted with the list as an annex at MoP8. The work of this IWG was completed.

7. IWG on Purpose-built Man-made Roosts

The Convenor of the IWG, Dr. Henry Schofield (UK), stated that the work of the IWG had almost been finished. The IWG only needed to add a few points to completely finalise the publication.

8. IWG on Bats and Forests

The Convenor, Mr. Tony Mitchell-Jones (UK), stated that the group had nothing to report at this stage. Since the IWG had completed its task, it was decided to close it.

9. IWG on Impact of Roads and other Traffic Infrastructures

The Convenor of the IWG, Ms. Jean Matthews (UK), was not present at the meeting, but she had submitted a written report which was presented in the plenary by Mr. Presetnik. Furthermore, a draft of the EUROBATS guidelines on the effects

of roads and other traffic infrastructure had been prepared for circulation at the meeting by Ms. Jean Matthews, Mr. Branko Karapandža, Dr. Jasja Dekker, and Mr. Primož Presetnik. The Convenor was grateful for offers to provide comments on specific parts of the text from Mr. Lothar Bach, Mr. Hermann Limpens, Mr. Fabien Claireau and Dr. Charlotte Roemer.

The Convenor welcomed comments, additional information, and offers of assistance in completing the publication in the next few months. She asked for any comments or additional information to be submitted by the 30th of April 2019. Information was lacking for two particular aspects – firstly, any additional information on the potential impact of air traffic was welcomed. Secondly, as most research on roads and railways had been done in northern and western Europe, details of any studies relating to roads or rail in eastern and southern states would be helpful.

10. IWG on Bats and Public Health

The Convenor, Professor Paul Racey (UK), explained that the Secretariat had circulated an email on his behalf, asking for examples of miscommunication with regard to bats. As there were no such instances to be reported, the Convenor wanted to consult with the Secretariat whether the IWG had turned into a one-person IWG and how this matter should be dealt with in the future.

11. IWG on Autecological Studies for Priority Species

Professor Stéphane Aulagnier (France), the Convenor of the IWG, explained that there was no need for the IWG to meet during this AC

12. IWG on Monitoring and Indicators

The Convenor of the IWG, Dr. Jasja Dekker (Netherlands), was not present during AC24. A report on the activities of the IWG during the previous quadrennium was given by Mr. Primož Presetnik to the Secretariat ahead of the meeting. It said that the IWG was dormant during the last reporting period, however, that the practical work was carried on by BatLife EUROPE within the framework of collecting national bat population trends and 2nd calculation of bat hibernacula index. The IWG decided to meet during AC24.

13. IWG on Education

One of the Co-Convenors, Dr. Dino Scaravelli (San Marino), reported that the IWG needed some time during AC24 to discuss the way forward in the next four years.

14. IWG on Conservation and Management of Important Overground Sites for Bats

The Convenor of the IWG, Professor Stéphane Aulagnier (France), explained that Resolution 8.5 requested from the Parties to prepare a list of overground roosts. The Convenor proposed for the IWG to be closed and that this task would be taken over by the Scientific Officer.

15. IWG on Bats and Climate Change

The ad-hoc working group was established during AC22 in Belgrade, Serbia, in 2017, based on the evidence collected during the preparation of the article for the IUCN SSC Bat Specialist Group Newsletter dedicated to the effect of climate change on bats. Most evidence from Europe was presented to the EUROBATs auditorium by Rebelo et al. 2017: "Bats, climate change and challenges for conservation"

https://www.iucnbsg.org/uploads/6/5/0/9/6509077/bsg_newsletter_vol3_2017.pdf.

It was decided to prepare a resolution, which was then drafted by the Convenors (Ms. Daniela Hamidović from Croatia and Dr. Hugo Rebelo from Portugal) and Dr. Orly Razgour (UK) at AC23 and adopted at MoP8.

16. IWG on Conservation and Management of Key Underground Sites

The Convenor of the IWG, Mr. Tony Mitchell-Jones (UK), explained that Resolution 7.6 requested from the Parties to prepare an update of the list of underground roosts. The Convenor proposed for the IWG to be closed and that this task would be taken over by the Scientific Officer.

17. IWG on Critical Feeding Areas

Since the IWG had completed its task with the publication of the guidelines, it was decided to close it.

10. Discussion on work plan priorities and the future operation of the Advisory Committee and Establishment of Intersessional Working Groups taking into account outstanding activities and the Resolutions adopted at MoP8

Based on the priorities identified in the Conservation and Management Plan, a need for the following Intersessional Working Groups was identified:

1. IWG on Insect Decline as a Threat to Bat Populations in Europe
2. IWG on Monitoring and Indicators
3. IWG on Bats and Public Health
4. IWG on Bats and Light Pollution
5. IWG on Bats and Wind Turbines
6. IWG on Bats and Climate Change

7. IWG on Bats Rescue and Rehabilitation
8. IWG on Bats, Insulation and Lining Materials
9. IWG on Impact of Roads and Other Traffic Infrastructures
10. IWG on Monitoring of Daily and Seasonal Movements of Bats
11. IWG on Education
12. IWG on Evaluation criteria for Assessment Reports Concerning Bats
13. The ad hoc Working Group on the Guidelines for the Implementation of the Agreement
14. IWG on Purpose-Built Man-Made Roosts
15. The ad hoc Working Group on the Amendment of the Agreement
16. IWG on Autecological Studies
17. The ad hoc EPI Evaluation Group

In the light and related to the budgetary constraints, Croatia proposed the establishment of another IWG for Evaluation of the Work of the Advisory Committee and will explore this possibility during the following AC meetings.

After some discussion about the EU-EUROBATS joint Action Plan and on the reporting under Article 17 of the Habitats Directive, AC decided to establish

18. An ad hoc Working Group to review the methodology of assessing conservation status of bat species in the Article 17 reports

and develop recommendations to be submitted by the Secretariat to the European Commission. Mr. Herman Limpens (Netherlands) and Ms. Daniela Hamidović (Croatia) volunteered to convene the group. Members of the ad hoc IWG were: Andrea Lešová, Ferdia Marnell, Ferdinand Bego, Gunārs Pētersons, Kaja Lotman, Kati Suominen, Lauri Lutsar, Luisa Rodrigues, Primož Presetnik, Stéphane Aulagnier, Szilard Bücs, Tony Hutson. It was also agreed that the Secretariat should list where EUROBATS was mentioned in the targets and actions of the EU-EUROBATS joint Action Plan. The Secretariat should then check if there was any need to re-establish any of the IWGs and identify further actions for the AC if necessary.

There was also a sub-group on off-shore wind farms convened by Mr. Herman Limpens (Netherlands). It was suggested that the Secretariat should inquire SEANSE project (<https://northseaportal.eu>) why bats were omitted at this stage and whether the tool could be expanded to other countries.

11. Reports from the working groups convened during the meeting

1. IWG on Bats and Light Pollution

The IWG met with the whole auditorium on 1st of April 2019. The Convenor, Dr. Christian Voigt (Germany), thanked the IWG members, the experts involved in formulating the manuscripts, Dr. Dino Scaravelli (San Marino) as the former Convenor of the IWG, and the EUROBATS Secretariat for their help over the past years. The Convenor reviewed the past achievements (guidelines and resolution) and particularly pointed out what tasks the IWG had to focus on according to the resolution that was adopted at MoP8 in Monaco. The Convenor stated that, in the future, the IWG was expected to collate relevant literature in the area of light pollution and bats, possibly revise the guidelines if needed, and submit a revised version of the guidelines (if required) to the EUROBATS Parties. Further, the Convenor discussed the procedure how to translate the EUROBATS guidelines into other languages. It was agreed that these translations could be done by anyone, preferably an expert from the EUROBATS community, yet the draft translation had to be checked and agreed on by the corresponding focal point(s) of the country(countries) in which the language was spoken. The Convenor mentioned that a translation of the guidelines into German was currently in progress and encouraged the auditorium to translate these and other guidelines into other languages. Finally, the Convenor asked to re-establish the membership in the IWG. Experts were encouraged to contact the EUROBATS Secretariat and to put their names on the list of IWG members.

The members of the IWG included Christian Voigt (Convenor), Adrià López-Baucells, Daniela Hamidovic, Dragoş Ştefan Măntoiu, Fiona Mathews, Henry Schofield, Herman Limpens, Jo Ferguson, Kit Stoner, Laurent Biraschi, Marcus Fritze, Marie Nedinge.

2. IWG on Insect Decline

As a result of the adoption of Resolution 8.13 on Insect Decline as a Threat to Bat Populations in Europe at MoP8, a new IWG was set up. Mr. Jacques Pir (Luxembourg) volunteered to convene this working group. During the plenary, it was proposed to divide the complex theme into different topics/subgroups:

1. nutritional requirements by food for bats;
2. knowledge on the diet of EUROBATS bat species;
3. main reasons of insect biomass decline;
4. major threats from insect decline to bat species;
5. compilation of good practice examples increasing insect biomass.

The actual base document of the IWG would be circulated among the members who volunteered to contribute to one or more sub-groups, and the work would be presented at the next AC meeting.

The members of the IWG: Jacques Pir (Convenor), Christian Voigt, Daniela Hamidović, Fiona Mathews, Henry Schofield, Herman Limpens, Hubert Krättli, Hugo Rebelo, Ibrahim Raşit Bilgin, Kati Suominen, Kit Stoner, Laurent Biraschi, Libuše Vlasáková, Ludo Holsbeek, Markus Dietz, Mounir Abi-Said, Orly Razgour, Ruth Petermann, Sasan Fereidouni, Stéphane Aulagnier, Toni Hutson, Toni Mitchell-Jones.

3. IWG on Evaluation Criteria for Assessment Reports

A new IWG to work on evaluation criteria for assessment reports concerning bats was established. It was convened by Ms. Ruth Petermann (Germany) and Professor Danilo Russo (Italy). The terms of reference for this working group was the request of Resolution 8.10 to develop a set of criteria for evaluating the quality of assessment reports. It was agreed that the Administrative Focal points should be asked whether this kind of evaluation criteria existed in their countries, and if so, to ask them to transmit these. This information would then be collected and used as a template for further work on the IWG's tasks.

Members of the IWG: Ruth Petermann (Co-Convenor), Danilo Russo (Co-Convenor), Awatef Abiadh, Branko Micevski, Daniela Hamidović, Gunārs Pētersons, Kati Suominen, Kit Stoner, Luísa Rodrigues, Markus Melber, Mirna Mazija, Primož Presetnik, Stéphane Aulagnier.

4. IWG on Bats and Wind Turbines

The Convenor of the IWG, Dr. Luisa Rodrigues (Portugal) mentioned that there were proposals to include some new issues in the work plan of the IWG.

One issue, introduced by Mr. Primož Presetnik (Slovenia), was a possible harmful effect of infrasound produced by wind turbines on bats. He suggested that, since there were studies dealing with the effect of infrasound on humans and other long-living mammals, the IWG should look into this matter with regard to bats. After some discussion it was decided to leave out this subject for the time being but to keep an eye on it and come back to it in the future if there was further evidence gathered.

Mr. Herman Limpens (Netherlands) proposed that the cumulative effect of off-shore wind turbines on bats should be considered within the scope of the IWG. It was discussed and decided that this topic should be tackled within the existing subgroup on off-shore wind turbines.

Mr. Dragoş Ştefan Măntoiu (Romania) suggested that a sensitivity map for the entire EUROBATS Range should be modelled with a new tool that is being developed by ARCADIS. Concerns were raised by many IWG members that data quality would not allow to make prudent sensitivity maps and that these could be misinterpreted, and some sensitive areas could be opened for wind turbines without good preconstruction survey. The IWG members were also of the opinion that mortality was often unrelated to bat activity and the sensitivity maps could be misleading. Therefore, a cautious approach was required. The subgroup should continue to gather information. Possible collaboration with the ARCADIS project was discussed and the IWG advised the Secretariat to continue communication with the ARCADIS team.

The group agreed that the update of the mortality data (namely the table with national data) was needed and instructed the Secretariat to inquire Parties and Non-Party Range States on this issue two months before each forthcoming AC. The questionnaire on post-construction monitoring should be circulated again among administrative and scientific focal points, covering the situation at the end of 2018.

Ms. Daniela Hamidović (Croatia) suggested that the Secretariat should also ask the countries why the raw data from EIAs was hardly available for independent analysis despite recommendations of Resolution 8.4. The full report that covers the period after AC23 would soon become available online.

Finally, the work-plan of the IWG was revised, and the membership of some sub-groups was changed.

Members of the IWG: Luisa Rodrigues (Convenor), Abdulaziz Alagaili, Aliaksei Shpak, Andrzej Kepel, Anna Nele Herdina, Branko Karapandža, Branko Micevski, Christian Voigt, Christine Harbusch, Daniela Hamidović, Dina Rnjak, Dino Scaravelli, Dragoş Ştefan Măntoiu, Eeva-Maria Kyheröinen, El Ayachi Sehhar, Emrah Çoraman, Fiona Mathews, Gunārs Pētersons, Herman Limpens, Hubert Krättli, Jacques Pir, Jan Collins, Jasja Dekker, Jean Matthews, Joana Bernardino, Johanna Hurst, Joris Everaert, Katherine Walsh, Kirsty Park, Lara Millon, Laurent Biraschi, Laurent Schley, Lothar Bach, Marcel Schillemans, Marcus Fritze, Markus Melber, Marie Nedinge, Marie-Jo Dubourg-Savage, Mirna Mazija, Mounir Abi-Said, Niels de Zwarte, Noam Leader, Pascal Moeschler, Per Ole Syvertsen, Petra Bach, Rita Bastos, Robert Raynor, Ruth Petermann, Thierry Kervyn, Triinu Tõrv, Üllar Rammul, Wael Elsheikh, Zuhair Amr.

Work-plan

Sub-group	Coordinator (c) and members
Compilation of data on bat mortality per country	Marie-Jo Dubourg-Savage (c) Lothar Bach
List of monitoring studies done in Europe	Anna Nele Herdina (c) Laurent Biraschi Marie-Jo Dubourg-Savage
Collect national guidelines	Andrzej Kepel (c) Branko Micevski Dina Rnjak Jan Collins
Implementation of mitigation and post-construction monitoring	Daniela Hamidović (c) Branko Micevski Per Ole Syvertsen
Impact of mortality rate on populations	Jasja Dekker (c) Lothar Bach Rita Bastos Emra Çoraman Marcus Fritze
Maximum foraging/commuting/migrating distances and heights of species	Marie-Jo Dubourg-Savage (c) Eeva-Maria Kyheröinen Dina Rnjak Zuhair Amr Christine Harbusch Joris Everaert
Comparing measurement of activity at ground level and rotor height	Lothar Bach (c) Jan Collins Johanna Hurst Marie-Jo Dubourg-Savage Petra Bach Dragoş Ştefan Măntoiu Thierry Kervyn Joris Everaert Lara Millon
Small Wind Turbines	Kirsty Park (c) Lothar Bach
Offshore windfarms	Herman Limpens (c) Lothar Bach Jasja Dekker Dragoş Ştefan Măntoiu Fiona Mathews

Wind farms and forests	Johanna Hurst (c) Christian Voigt Christine Harbusch Andrzej Kepel Branko Karapandža Fiona Mathews Lothar Bach Thierry Kervyn Ruth Petermann Marcus Fritze Branko Micevski
200m buffer distance to habitats particularly important for bats	Branko Karapandža (c) Noam Leader Mirna Mazija Marcus Fritze Lara Millon
Sensitivity maps	Dragoş Ştefan Măntoiu (c) Noam Leader Mirna Mazija Marcus Fritze Joris Everaert
Mitigation and compensation measures	Joana Bernardino (c) Branko Karapandža Dino Scaravelli Lothar Bach Luisa Rodrigues Dragoş Ştefan Măntoiu Thierry Kervyn Marcus Fritze
Deterrents, technical mitigation systems and automated monitoring systems	Lothar Bach (c) Branko Karapandža Dino Scaravelli Luisa Rodrigues Marcus Fritze Joris Everaert
Use of dogs vs humans during carcass searches	Dina Rnjak (c) Fiona Mathews Petra Bach Dragoş Ştefan Măntoiu Joris Everaert

Estimation of bat mortality based on carcass searches; the choice of the best estimator for Europe	Rita Bastos (c) Dino Scaravelli Jasja Dekker Joana Bernardino Petra Bach Dragoş Ştefan Măntoiu
Summary of the bibliography on wind turbines and bats	Marie-Jo Dubourg-Savage (c) Laurent Biraschi Marcus Fritze

5. IWG on Education

In the past period the IWG had different targets such as collecting best practice examples focused on basic education (preschool, kindergarten, and primary school) from all the Parties and Non-Party Range States. On EUROBATS workspace the Secretariat had designated some room for the IWG. It was also offered to eventually provide translation of documents in other languages and make them available on workspace.

During its meeting at AC24, the IWG discussed a possible work plan and the following points were identified:

- Verify and classify the material collected;
- Circulate the final version of the introductory page (ex-leaflet);
- Prepare a reference page on EUROBATS website and create a clear education link and an adequate header on the webpage;
- Prepare some suggestions for children competitions in different countries, asking the focal points to increase awareness through the International Bat Night and other outreach events;
- Develop a picture/drawing competition that will be shown at the next MoP, and, meanwhile, provide images for the activities.

Dr. Dino Scaravelli (San Marino), one of the Co-Convenors of the IWG, would discuss with the other Co-Convenor (Dr. Hussein Zohoori, Iran, not present at AC24) how to organise the planned work and would send the IWG members a request to contribute to different topics.

6. IWG on Communication, Bat Conservation and Public Health

The Convenor, Professor Paul Racey (UK), reviewed attempts to correct misrepresentations about the role of bats as vectors of viral zoonoses and drew attention to the results released without peer review. Success was achieved in 2018 when “Nature” included a correspondence letter from the Convenor and

several other bat biologists correcting the assertion in an article that Chinese virologists had found the ‘smoking gun’ of SARS in rhinolophid bats. A year later, “Nature’s Research Highlights” included a review of a paper published in “Nature Microbiology” which described a new filovirus (named Mengla) discovered in a single individual *Rousettus* (no species named) caught in a survey in Yunan in 2015. Although this individual shared 32-54 percent nucleotide sequences with known filoviruses, the title of the Research Highlights article was “Ebola-like virus discovered in a bat”. Bat conservationists concerned by this exaggeration again wrote to “Nature” as follows: “Why does ‘Nature’ exploit every opportunity to implicate bats as a source of zoonotic viruses?” A reply was being awaited. “Science magazine” included an article by Kai Kupferschmidt claiming that *Miniopterus inflatus*, captured near the mouth of an abandoned mineshaft in Zaire, carried a virus with 20 percent of the genome of Ebola Zaire. This discovery was the work of the PREDICT consortium of virologists who were under pressure from the Liberian government to release details in advance of peer review and publication. A similar situation arose in Sierra Leone with the government announcing, in advance of publication, the discovery by members of the PREDICT consortium of new filovirus, named Bombali after the capture location. A complaint was made to the editor of “Tropical Medicine and Infectious Disease” about the inclusion in a recent paper of a figure of a dead bat in a mist net, reminding him about the American Society of Mammalogists Guidelines on the use of Wild Animals in Research and Education. The editor acknowledged that the figure was inappropriate and regretted its inclusion and would be reviewing journal’s policy on animal welfare. Finally, in a “Nature News and Views” review (entitled “Receptor bats for the next flu pandemic”) of a letter on cross-species entry of bat influenza viruses, Professor Wendy Barclay, an eminent influenza expert said: “Ebola, SARS and Nipah viruses have all crossed from bats of humans, either directly or through intermediate hosts.” This statement was referred to a specialist in bat viruses who commented as follows:

1. Ebola Zaire was recently detected in bats as well as new strains of Ebola (eg. Bombali), but there was no link to human and other animal infections. Some research groups tried to infect human cells with these ‘bat viruses’ in vitro, and it seemed to be possible but there was no direct evidence yet.
2. Nipah and Marburg: there was a clear evidence of a link with bats.

3. SARS: there was no evidence of a direct link to an outbreak. However, there was more and more evidence that similar viruses to SARS with receptors that can infect human cells were present in bats but with no direct link to a spill over yet.

7. IWG on the Impact of Roads and other Traffic Infrastructures on Bats

During the meeting of the IWG at AC24 a draft of the EUROBATS guidelines on the effects of roads and other traffic infrastructure was presented. Some first thoughts on the draft were collected and several suggestions for additional literature were received. Nevertheless, the main work to refine the draft still remained for the following months.

8. IWG on Monitoring of Daily and Seasonal Movements of Bats

Resolution 8.3 Monitoring of Daily and Seasonal Movements of Bats was adopted at MoP8. It urged Parties and Non-Party Range States to increase attention, support research in bat migration, prioritise studies and, in particular, stimulate cross-boundary efforts in research and conservation of migratory species.

The Convenor of the IWG, Dr. Dino Scaravelli (San Marino), informed that, during its meeting at AC24, the IWG discussed the possibility to submit to scientific focal points a questionnaire in order to recollect information, but that this was not believed to be an opportune strategy.

It was also discussed whether, as the publication of Hutterer and al. was edited in 2005, it should be an important target to recompile information and consider new methods that could be used in the study of bat movements.

It was also noted that capacity building could be important, and this could be done through the work of the IWG.

The IWG then established the following working points:

- Verify the information on bat movements available from the Parties and Non-Party Range States reports;
- In a second phase ask directly the scientific focal points about other references on movements;
- Create a cooperative action with the bird banding systems to collect data that was often lost;
- Underline the necessity to collate information from different sources to accumulate evidence of migrations, stopping overs, and corridors.

The IWG also talked about the necessity to make available the information coming from monitoring with appropriate decisions from different states. The general phenology could greatly increase its robustness owing to that data.

Finally, the IWG showed a great interest in supporting those projects that internationally favor specific moments of counting or checking the migration in large areas with appropriate methods.

9. Ad hoc WG on the Guidelines for the Implementation of the Agreement

Mr. Tony Hutson (UK) and Dr. Ferdia Marnell (Ireland), the Co-Convenors of the ad hoc WG on the Guidelines for the Implementation of the Agreement, met on a number of occasions during the AC to review and update the Implementation Guidelines, taking into account the changes arising from MoP8. They were also assisted in this review by the Vice-Chair, Ms Ruth Peterman (Germany). The necessary edits had been identified and drafted and, with the support from the Secretariat, it was hoped that Version 2 of the Guidance document would be made available on the EUROBATS website in the coming months.

10. IWG on Monitoring Bats and Indicators

During AC24 the IWG on Bat Monitoring and Indicators decided to change its Convenors with the full support of the AC members. The new Co-Convenors were Mr. Adrià López-Baucells (Spain) and Ms. Daniela Hamidović (Croatia).

Mr. Primož Presetnik (Slovenia) presented the work done by the IWG during the last quadrennium, specifically regarding the long-term monitoring of cave-dwelling bats in hibernacula roosts, with emphasis on the capacity training, data management, and TRIM indicators protocol.

Together with all the AC delegates and observers, the new expected outcomes of this IWG were debated and drafted according to the Conservation and Management Plan (Res.8.11). It was agreed that the expected outcomes from the IWG should primarily be:

- 1) Updating the guidelines published by Eurobats in 2010: *“Guidelines for Surveillance and Monitoring of European Bats”*;
- 2) Preparing of a new section within this publication about population trend calculation methods and ecological indicators development.

But also:

- 3) Reviewing of the reports on national capacity needs and suggesting for an action if needed (Sub-convenor: Ivana Budinski);
- 4) Revising Resolution 2.2: Consistent Monitoring Methodologies, Resolution 5.4: Monitoring Bats across Europe, and Resolution 6.13: Bats as Indicators for Biodiversity, if needed to accompany the guidelines;
- 5) Revising Resolution 4.6: Guidelines for the Issue of Permits for the Capture and Study of Captured Wild Bats, if needed.

To achieve this, it was considered that the IWG should work in subgroups, led by Sub-Convenors, who were to be determined and assigned in the weeks following AC24. Initially, the structure of the new guidelines update was planned to be discussed with the Sub-Convenors, after which a draft would be e-mailed to the AC members for comments.

After further discussion it was decided that the guidelines should not be entirely re-written, but that they should be re-structured, complemented, and updated. For this reason, the structure of the current guidelines was accurately screened and debated.

Discussion proposal of the guidelines update and subgroup convenors	
1. Introduction: Surveillance and monitoring of bats across Europe	No major changes expected
2. Methods & technique description	Revise and update existing guidelines
• Acoustic surveys	
○ Remote acoustic stations	Adrià López-Baucells
○ Walking transects	Primož Presetnik, BCT
○ Car/bicycle/boat transects	Herman Limpens & colleagues
• Photography count	Daniela Hamidović and Szilard-Lehel Bücs
• Thermo-imaging	Stéphane Aulagnier
• Infrared recordings	Daniela Hamidović
• Infrared-light barriers	?
• Visual roost inspection (e.g. hibernacula...)	Primož Presetnik
• Optic-fibre camera inspection	?
• Marking bats (banding, pit-tags, etc.)	Adrià López-Baucells
• Trapping bats (mist-netting, harp-trapping, etc.)	Marcus Fritze
• Genetic monitoring	Orly Razgour
• Tracking (VHF/GPS)	Marie-Jo Dubourg-Savage
• Bat boxes	Markus Melber
• Other suggestions	

3. Long-term monitoring protocols for different habitats	Revise and update existing guidelines
• Roost monitoring	Szilard-Lehel Bücs, Daniela Hamidović
○ Maternity colonies	Szilard-Lehel Bücs, Daniela Hamidović
○ Hibernation colonies	Szilard-Lehel Bücs, Daniela Hamidović
○ Migration colonies	Szilard-Lehel Bücs, Daniela Hamidović
• Swarming site monitoring	
• Summer-foraging habitats monitoring	Adrià López-Baucells
4. Tables Technique/Habitats/Species	All members
5. Data management, sharing and storage	?
6. National Bat Monitoring programs	Ivana Budinski
7. Species accounts	?
8. Pan-national Indicators	Primož Presetnik, Adrià López-Baucells

Additionally, the **membership of the IWG** was updated: Adrià López-Baucells (Co-Convenor), Daniela Hamidović (Co-Convenor), Andrzej Kepel, Astghik Ghazaryan, Aurora Dibra, Awatef Abiadh, Branko Micevski, Christine Harbusch, Dragoş Ştefan Măntoiu, Emrah Çoraman, Ferdia Marnell, Fiona Mathews, Gunārs Pētersons, Helena Jahelková, Herman Limpens, Hubert Krättli, Ivana Budinski, Jacques Pir, Janusz Hejduk, Jasja Dekker, Jasminko Mulaomerović, Jean Matthews, Kit Stoner, Lena Godlevska, Luisa Rodrigues, Marcus Fritze, Marie-Jo Dubourg-Savage, Marie Nedinge, Markus Melber, Mirna Mazija, Orly Razgour, Per Ole Syvertsen Primož Presetnik, Szilard-Lehel Bücs, Tony Hutson, Vida Zrnčić.

Everybody wanting to be included in the IWG, either as a member or as a Sub-Convenor, should contact the IWG Convenor.

11. IWG on Bats and Climate Change

The IWG meeting opened with Professor Danilo Russo (Italy) presenting main goals and structure of COST Action CA 18107 (detailed information below) and inviting interested AC focal points and observers to join the Action via their COST National Coordinators:

(<https://www.cost.eu/who-we-are/whos-who/#tabs|Name:national-coordinators-cnc>).

After Professor Russo's presentation, the Co-Convenors, Ms. Daniela Hamidović (Croatia) and Dr. Hugo Rebelo (Portugal), presented the IWG the goals of Resolution 8.7 for the future work of the group. Dr. Orly Razgour (UK) then presented COST Action CA 18107 Working Group 1 objectives and current working status. She expressed strong interest in fostering cooperation between this Working Group and the EUROBATS IWG. First analyses from this Working Group were expected by spring 2020, thus constituting the platform for the development of species' vulnerability assessments. The Co-Convenors and Dr. Orly Razgour discussed with the IWG members the implementation of current IWG objectives and framework, especially in terms of assessing vulnerability of bat species encompassed by the Agreement.

For the work of the IWG for the species vulnerability assessment, species specialist coordinators were selected during the meeting and are presented in the table below.

Species	Species specialist coordinator
1. <i>Rousettus aegyptiacus</i> (Geoffroy, 1810)	Asaf Tsoar (to be checked by N. Leader)
2. <i>Taphozous nudiventris</i> (Cretzschmar, 1830)	
3. <i>Rhinolophus blasii</i> (Peters, 1866)	Szilárd-Lehel Bücs
4. <i>Rhinolophus euryale</i> (Blasius, 1853)	Ivana Budinski
5. <i>Rhinolophus ferrumequinum</i> (Schreber, 1774)	(Jacques Pir?)
6. <i>Rhinolophus hipposideros</i> (Borkhausen, 1797)	Henry Schofield
7. <i>Rhinolophus mehelyi</i> (Matschie, 1901)	Szilard Bücs
8. <i>Barbastella barbastellus</i> (Schreber, 1774)	Danilo Russo
9. <i>Barbastella caspica</i> (Satunin, 1908)	
10. <i>Eptesicus anatolicus</i> (Felten, 1971)	
11. <i>Eptesicus isabellinus</i> (Temminck, 1840)	Hugo Rebelo
12. <i>Eptesicus nilssonii</i> (Keyserling & Blasius, 1839)	Marie Nedinge to check
13. <i>Eptesicus ognevi</i> (Bobrinskii, 1918)	

14. Eptesicus serotinus (Schreber, 1774)	
15. Hypsugo savii (Bonaparte, 1837)	
16. Myotis alcathoe (von Helversen & Heller, 2001)	Adrià López-Baucells
17. Myotis bechsteinii (Kuhl, 1817)	Markus Melber
18. Myotis blythii (Tomes, 1857)	
19. Myotis brandtii (Eversmann, 1845)	Marcus Fritze
20. Myotis capaccinii (Bonaparte, 1837)	Daniela Hamidović
21. Myotis dasycneme (Boie, 1825)	Herman Limpens
22. Myotis daubentonii (Kuhl, 1817)	
23. Myotis davidii (Peters, 1869)	
24. Myotis emarginatus (Geoffroy, 1806)	Jacques Pir
25. Myotis escalerae Cabrera, 1904	Hugo Rebelo
26. Myotis myotis (Borkhausen, 1797)	Marcus Fritze
27. Myotis mystacinus (Kuhl, 1817)	Marcus Fritze
28. Myotis nattereri (Kuhl, 1817)	Hugo Rebelo
29. Myotis punicus (Felten, 1977)	Dino Scaravelli
30. Myotis schaubi (Kormos, 1934)	
31. Nyctalus azoreum (Thomas, 1901)	
32. Nyctalus lasiopterus (Schreber, 1780)	Marie-Jo Dubourg-Savage
33. Nyctalus leisleri (Kuhl, 1817)	
34. Nyctalus noctula (Schreber, 1774)	Dragoș Ștefan Măntoiu
35. Otonycteris hemprichii (Peters, 1859)	Stéphane Aulagnier
36. Pipistrellus hanaki (Hulva & Benda, 2004)	
37. Pipistrellus kuhlii (Kuhl, 1817)	
38. Pipistrellus maderensis (Dobson, 1878)	
39. Pipistrellus nathusii (Keyserling & Blasius, 1839)	
40. Pipistrellus pipistrellus (Schreber, 1774)	
41. Pipistrellus pygmaeus (Leach, 1825)	
42. Plecotus auritus (Linnaeus, 1758)	
43. Plecotus austriacus (Fischer, 1829)	Orly Razgour

44. Plecotus kolombatovici (Dulic, 1980)	Daniela Hamidović
45. Plecotus macrobullaris (Kuzyakin, 1965)	
46. Plecotus sardus (Mucedda, Kiefer, Pidinchedda & Veith, 2002)	
47. Plecotus teneriffae (Barrett-Hamilton, 1907)	
48. Vespertilio murinus (Linnaeus, 1758)	
49. Miniopterus pallidus (Thomas, 1907)	
50. Miniopterus schreibersii (Kuhl, 1817)	Rasit Bilgin
51. Tadarida teniotis (Rafinesque, 1814)	

Mr. Dragoş Ştefan Măntoiu (Romania) agreed to provide raw presence data for Eastern Europe for 13 bats species. The role of the raw data coordinator was assigned to Ms. Daniela Hamidović and, regarding data confidentiality, an agreement would be drafted with the help from the Secretariat to assure that the use of data in no way compromised the providers research or obligation to the data usage. No publication or public use of the data would be done without prior consent of the data providers.

The relevance of biological traits to assess species vulnerability to climate change were discussed and offspring survival rate was added to the list. The list would be reviewed and emailed to all IWG members for comments by May 2019.

As future steps, it was agreed that the Co-Convenors would develop and distribute instructions and spreadsheets to all IWG members describing the tasks of collaborators, species specialist coordinators, raw data management coordinator and published evidence (literature and data) coordinator. The Co-Convenors would also draft a confidentiality and raw data usage agreement with the help of the EUROBATS Secretariat. The bat species list with respective species specialist coordinators would be sent to all IWG members for comments. Mr. Dragoş Ştefan Măntoiu would collect current evidence of climate change impacts on bat populations over EUROBATS range. Finally, a draft of questionnaire would be prepared by Dr. Lena Godlevska (Ukraine) and would be distributed to all IWG members for comments. The final version of the questionnaire would be provided to the Secretariat for distribution to AC focal points. The questionnaire data would then be analysed by Dr. Henry Schofield (UK) and Dr. Emrah Çoraman (Turkey).

The IWG members included Daniela Hamidović (Co-Convenor), Hugo Rebelo (Co-Convenor), Abdulaziz Alagaili, Christian Voigt, Danilo Russo, Dragoş Ştefan Măntoiu, Emrah Çomaran, Fiona Mathews, Henry Schofield, Ivana Budinski, Jacques Pir, Karmi Corine, Lena Godlevska, Marcus Fritze, Nijat Hasanov, Orly Razgour, Rasit Bilgin, Stéphane Aulagnier, Szilárd-Lehel Bücs, and Vida Zrnčić.

DETAILS on COST Action CA18107

<https://www.cost.eu/actions/CA18107/#tabs|Name:overview>

On the 26th of February 2019 a COST Action entitled “Climate change and bats: from science to conservation” (#CA18107) started. The main aim of this initiative is to foster and develop an international network of researchers (with a special focus on young researchers) to evaluate current knowledge gaps on this theme and ultimately determine which bat species and geographical regions will most likely suffer from negative impacts due to climate change. This Action is divided into three working groups. Working Group 1 is focused on analysing the impact of climate change on the distribution of European bat species present in the Western Palearctic. The following step is to identify which bat species traits correlate with species vulnerability to climate change – for species whose distribution data is lacking for robust analyses, this analysis will allow to evaluate these species vulnerability to climate change. Working Group 2 is focused on developing a monitoring network designed to detect potential range shifts and population changes due to climate change. These results will spatially optimise the monitoring network (selection of the most suitable monitoring locations across EUROBATS range to detect bat range shifts), while also identifying the geographic regions more exposed to climate change effects. Working Group 3 aims to evaluate the impact of climate change on bat ecosystem services. This group will identify and quantify for the first time the main bat ecosystem services over European space and evaluate the impact of climate change on bat ecosystem services.

The knowledge gathered under the scope of this COST Action is paramount for the development of guidelines and frameworks to address potential climate change impacts on bat populations and approaches available for mitigation.

12. IWG on Bats, Insulation and Lining Material

One of the Co-Convenors, Dr. Helena Jahelková (Czech Republic), informed the IWG members about a plan to organise a three-day workshop in the Czech Republic concerning bats and insulation. The intention was to have a maximum of 30 participants for this workshop. The workshop would be partly financed by the Czech Ministry of Environment, but additional support would also be sought

through other resources, such as EPI initiative. Following the suggestions given during the IWG meeting, the workshop would likely take place in the period between April and May, ensuring that it did not clash with AC25. The topics would include different insulation methodologies as well as monitoring both in post-communist countries (convened by the Czech Republic) with panel houses, and in western countries (convened by the Netherlands) which face rapid house insulation in private houses. Other topics would also include use of lining material dangerous for bats during roof insulation, monitoring after insulation, effectivity of mitigation, type and use of commercial bat boxes, custom-made solutions. Ms. Daniela Hamidović strongly emphasised the need to include a session on the legal requirements and conditions that should be imposed during insulation projects, particularly when funded by EU grants.

Regarding the Guidelines, the following was discussed:

- The questionnaire which was available at EUROBATS workspace would be circulated to those Parties which had not yet completed it. The timeframe for circulating the questionnaire among the members was one week after the meeting (Convenor to ask the Secretariat);
- The chapter of Bat biology relating to insulation would be extended by additional data (Convenor) within six weeks;
- A new chapter about new insulated houses and loss of roost was added to the guidelines;
- Subchapters which needed to be filled by every country and specific suggestions of case examples would be circulated within four weeks among the members of the IWG (Convenor to ask the Secretariat);
- Circulation among Parties and Non-Party Range States of guidelines containing new data would take place within 3 months from the meeting (Convenor to ask the Secretariat).

The members of the IWG: Helena Jahelková (Co-Convenor), Herman Limpens (Co-Convenor), Kit Stoner (Co-Convenor), Aleksandar Nastov, Andrea Lešová, Andrzej Kepel, Branka Pejić, Christian Voight, Daniela Hamidović, Dragoş Ştefan Măntoiu, Ferdinand Bego, Fiona Matthews, Gunārs Pētersons, Hubert Krättli, Janusz Hejduk, Lara Millon, Lauri Lutsar, Lena Godlevska, Marcel Schillemans, Marie-Jo Dubourg-Savage, Marina Radonjić, Markus Melber, Martin Celúch, Peter Lina, Primož Presetnik.

13. IWG on Bat Rescue and Rehabilitation

The participants of the IWG meeting looked through the latest version of the guidelines draft and discussed recently inserted sections (subchapters: Euthanasia; Other infections; Mites and parasites; Outside bat aviary). The working schedule and contribution duties for the finalisation of the draft were agreed upon, mainly case examples from particular countries. Israel pointed out that the guidelines were focusing only on insectivorous bat species and did not include *Rousettus aegyptiacus*. It was agreed to add chapters regarding requirements of *Rousettus aegyptiacus*. During the following two months the draft would be updated and circulated to all the Parties and Non-party Range States for comments and additions.

The members of the IWG: Lena Godlevska (Co-Convenor), Helena Jahelková (Co-Convenor), Aleksandar Janevski, Aliaksei Shpak, Andrea Lešová, Andrzej Kepel, Astghik Ghazaryan, Branka Pejić, Dragoş Ştefan Măntoiu, Ivana Budinski, Kit Stoner, Marie-Jo Dubourg-Savage, Nijat Hasanov Nikola Micevski, Noam Leader, Peter Lina, Sasan Fereidouni, Victoria Nistreanu.

13. Date and venue of the 25th Meeting of the Advisory Committee

The Secretariat asked if any Party or Non-Party Range State wanted to invite the next AC meeting. Bosnia and Herzegovina expressed its wish to do so. Ms. Petermann, acting as AC Chair, as well as Mr. Streit thanked Bosnia and Herzegovina for their invitation.

14. Any other business

There was no other business to discuss.

15. Adoption of the record of the Meeting

After some discussion, the Record was unanimously adopted.

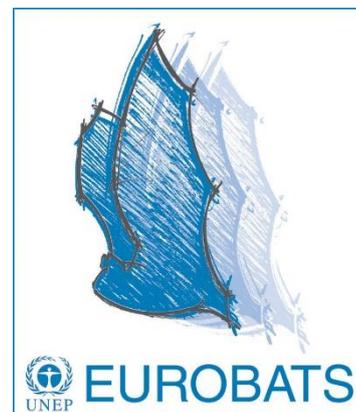
16. Close of Meeting

In closing the meeting, Mr. Nastov, representing the host government, thanked the participants for their hard work, as well as Mr. Streit for his engagement. It was a great pleasure to host this meeting of the Advisory Committee and Mr. Nastov hoped that the participants also enjoyed their stay. Ms. Petermann also addressed the meeting, saying that it was an honour for her to chair it. She also thanked the host government for their hospitality as well as the participants for their work. Finally, Mr Streit on his part thanked the host government once again for inviting the AC meeting, as well as the Chair and the Vice-Chair and all the participants for their excellent work during the last days. There being no further business, the meeting closed at 17:44.

24th Meeting of the Advisory Committee

Skopje, North Macedonia, 1 – 3 April 2019

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