

AGREEMENT ON THE CONSERVATION OF POPULATIONS OF EUROPEAN BATS (EUROBATS)

National report on the implementation of the Agreement's resolutions prepared for 7th Meeting of the Parties in Brussels from 15th to 17th September 2014

A. General information

Party:	Republic of Poland
Data of report:	April 2014
Reporting period:	September 2010 - April 2014
Competent verifying authority:	Ministry of the Environment
Amendments relating to:	
Competent verifying authority:	No
Membership in the Advisory Committee:	No
Membership in committees/working groups:	No

B. Status of the bats' population on the Party's territory

1. Basic information on the composition of the native fauna of bats

21 species of bats have been confirmed to occur permanently in Poland. 20 of them belongs to the vesper bats family and one of them (the lesser horseshoe bat, *Rhinolophus hipposideros*) belongs to the horseshoe bats family.

The occurrence of the bats belonging to four other species: the greater horseshoe bat *Rhinolophus ferrumequinum*, the Kuhl's pipistrelle *Pipistrellus kuhlii*, the lesser mouse-eared bat *Myotis oxygnathus* (formerly classified as *M. blythii*), and the greater noctule bat *Nyctalus lasiopterus* have been recorded occasionally. These four species have not been proved to breed in Poland so far.

2. Status and trends

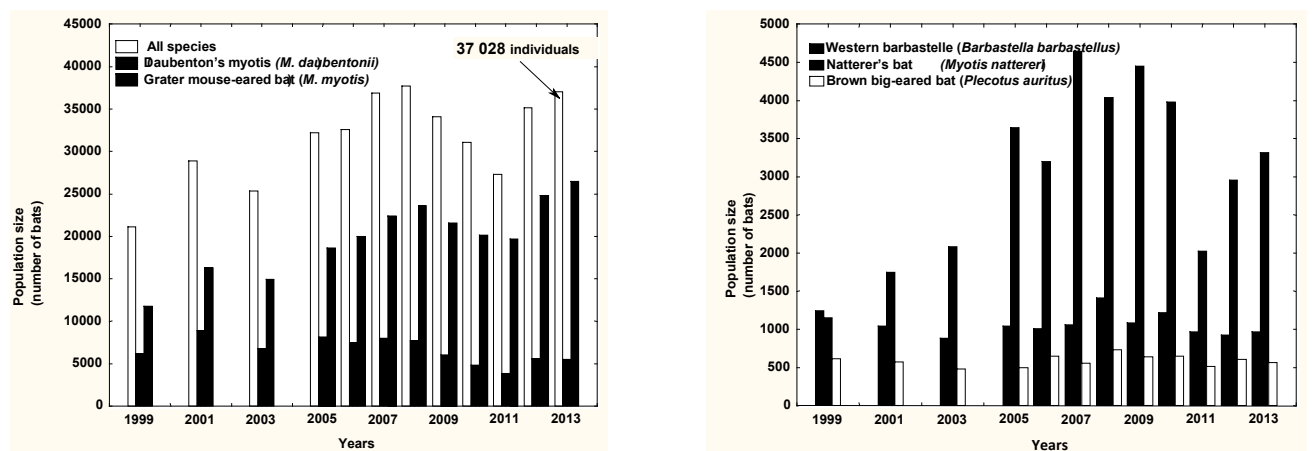
The report on the conservation status of the natural habitats and species included in Annexes I, II, IV and V of the Habitats Directive for the years 2001- 2006 and sent to the European Commission showed that in case of 21 species evaluated in continental bio geographical region (CON) and 18 - in the Alpine region (ALP), respectively 10 (47.6 %) and 10 (55.6 %) were in favourable conservation status (FV). Those are the following species:

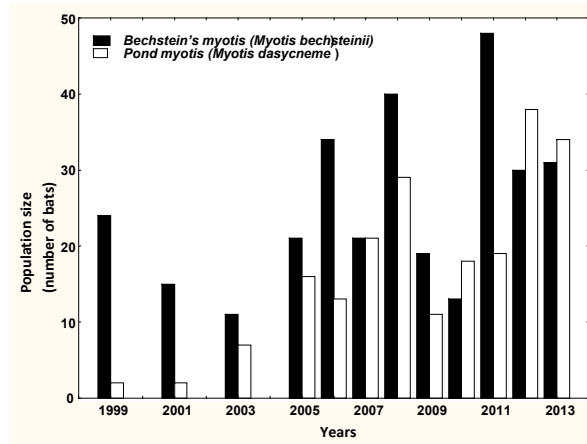
1. Pygmy pipistrelle *Pipistrellus pygmaeus* (CON)

2. Common pipistrelle *Pipistrellus pipistrellus* (CON, ALP)
3. Nathusius's pipistrelle *Pipistrellus nathusii* (CON)
4. Daubenton's myotis *Myotis daubentonii* (CON, ALP)
5. Brandt's myotis *Myotis brandti* (CON, ALP)
6. Natterer's bat *Myotis natterer* (CON, ALP)
7. Brown big-eared bat *Plecotus auritus*, (CON, ALP)
8. Serotine *Eptesicus serotinus* (CON, ALP)
9. Whiskered myotis *Myotis mystacinus*, (CON, ALP)
10. Noctule *Nyctalus noctula* (CON)
11. Northern bat *Eptesicus nilssonii* (ALP)
12. Greater mouse-eared bat *Myotis myotis* (ALP)
13. Particoloured bat *Vespertilio murinus* (ALP)

From 1999 to 2013, in the biggest winter habitat of bats in Poland which is located in the Natura 2000 site - "Nietoperek", for 7 monitored species one recorded rising trend in case of five: the greater mouse-eared bat *Myotis myotis*, the pond myotis *Myotis dasycneme*, the Bechstein's myotis *Myotis bechsteinii*, the Natterer's bat *Myotis nattereri* and the brown big-eared bat *Plecotus auritus* and a declining one only in case of two species: the Daubenton's myotis *Myotis daubentonii* and the western barbastelle *Barbastella barbastellus* (Fig. 1).

Fig. 1. Changes to the bats population size in the undergrounds of the Central Section of the Międzyrzecz Fortified Front (MFF) (the Natura 2000 "Nietoperek") from 1999 to 2013 (T. Kokurewicz with his team)





3. Habitat and roosts

In the recent years, the noctule *Nyctalus noctula* has been more and more often found to hide in crevices and attics of buildings and especially blocks of flats constructed from prefabricated panels. This is the prevailing pattern in the southern and western part of Poland, both in summer (breeding colonies) and during hibernation.

4. List of threats

Threats to bats in Poland are similar to those typical for European countries. Among them the threats of the biggest importance are: habitat fragmentation, decreasing the number of suitable summer and winter roosts, the wind energy's development, disturbance during hibernating and breeding period and sometimes intentional killing bats by people too. The threats are also construction and renovation works without a priorer chiropterological expert opinion or with such an expert opinion, but of law competence level. As a result, often whole colonies of animals die bricked in crevices.

Below we give an example:

At the end of 2012/beginning of 2013 one conducted renovation works in the site of living of two known national colonies of the pond myotis *Myotis dasycneme* (village of Jeleniewo, Suwałki Poviát). The renovation of the church's attic where the colony was living was carried out without the required chiropterological supervision. Due to the fact that the works were carried out improperly, the colony didn't appear in this building during the breeding season 2013. In 2014, one will adapt the attic for bats and will seek for current location of the colony (if during this time it doesn't come back to its original location).

5. Collection, analysis, interpretation and dissemination of data

Although a majority of scientific institutions and non-governmental organisations involved in research on and protection of bats have been carrying out regular winter and summer monitoring of bats for years, there is no central system of collection and analysis of the results of these studies.

In 2012, the Chief Inspectorate of Environmental Protection within the framework of the Environmental Monitoring Library (BMŚ - Biblioteka Monitoringu Środowiska) published 2nd and 3rd part of the methodical guides for monitoring species of plants, animals and natural habitats. They are available e.g. in electronic format (PDF) on the website of the Chief Inspectorate of Environmental Protection at:

<http://www.gios.gov.pl/siedliska/default.asp?nazwa=publikacje&je=pl>.

Before the guides mentioned above were published, the methodology described there had been tested during monitoring works carried out from 2009 to 2011 within the framework of the State Environmental Monitoring (PMŚ - Państwowy Monitoring Środowiska) - the programme "Monitoring of species and natural habitats with the special consideration of habitats conservation special sites Natura 2000 - phase three" conducted on the Chief Inspectorate of Environmental Protection's order as well as during other, previous research and inventories. The part concerning bats is described in the volume titled: „Animal species' monitoring. A methodical guide. Part three.” In this moment it should be stressed that this is the first proposal of standardised monitoring, including ways of evaluation of the conservation status of species which as the knowledge on their biology and ecology is widened, may be modified in the future.

Furthermore, in two editions of Biuletyn Monitoringu Przyrody: No 7. 2010/1 and No 10. 2012/12, released by the Inspectorate of Environmental Protection within the Environmental Monitoring Library, one presented synthetic information on the results of the monitoring carried from 2009 to 2011, including - monitored species of bats.

One has been preparing and updating on a regular basis an electronic atlas of the distribution of mammals in Poland titled: „Atlas of Polish mammals" („Atlas ssaków Polski") (editor: the Institute of Nature Conservation PAS) link:<http://www.iop.krakow.pl/ssaki/katalog.aspx>) which contains information on 25 species of bats that occur in Poland.

During the reporting period, in the area of 8 voivodeships, counting and monitoring of bats (often annual) carried out by national parks, landscape parks, regional directorates for environmental protection, non-governmental organisations, universities and scientific institutes took places..

C. Actions taken to implement article III of the Agreement

6. Legal actions for the bats protection including the implementation of the regulations

Plans concerning conservation for the Natura 2000 sites are under preparation. In 2011, the works on the Conservation Plan of the Natura 2000 site PLH 080003 - "Nietoperek" were completed. At present one prepare its approval in the form of the Minister of the Environment's regulation.

The General Directorate for Environmental Protection prepared and edited in 2011 a publication titled: „Guidelines for forecasting the environmental impact of the wind farms" which is also available on the web at:

http://www.gdos.gov.pl/files/OOS_zal/Wytyczne-w-zakresie-prognozowania-oddziaływan-na-srodowisko-farm-wiatrowych.pdf.

The above publication only indicates the possibility of a negative impact of the wind energy projects on bats and doesn't present any detailed solutions in this matter. Such issues will be presented in the publication titled: „Guidelines for assessment of the wind turbines' impact on bats" which is prepared by the General Directorate for Environmental Protection.

7. Areas and structures important for bats which were identified and were given protection and active conservation measures.

During the reporting period the following, new, important for bats conservation areas and structures were found:

- the Wiślańska Cave (Cieszyn Powiat, Śląskie Voivodeship), wintering area of 130-160 individuals, at least 7 species of bats, data from the project documentation for " Documentation Post Wiślańska Cave";
- The attic of the Primary School in Ślężany (Częstochowa Powiat, Śląskie Voivodeship), summer roost of over 330 greater mouse-eared bats (Mysłajek R. W. ,Czechowski D. 2012). A breeding colony of the greater mouse-eared bat *Myotis myotis* in Ślężany in Śląskie Voivodeship. *Chrońmy Przyrodę Ojczystą* 68 (1): 78-80).

- Winter roost of the tiny horseshoe in the Wyspowy Beskid, around Mt Mogielica (Śląskie Voivodeship) discovered among others by Polish Society of Wildlife Friends "pro Natura" (PTPP "pro Natura") and scientists from the Pedagogical University of Cracow.
- The attic of the church in Sławków (Śląskie Voivodeship, Będzin Powiat) - the biggest known breeding colony of the Geoffroy's bat *Myotis emarginatus* in Poland - over 300 individuals (PTPP pro Natura).
- Winter station covering a part of the storm water collector of the length circa 700 m connecting Brzeziny housing estate and Jaroty housing estate in Olsztyn (Warmińsko-Mazurskie Voivodeship) The collector is a site for hibernating bats (in 2012 2569 individuals were found there, in 2013 - 3412), mainly the Natterer's bat *Myotis nattereri* (in 2012 - 2454 individuals, in 2013 - 3314) and the Daubenton's myotis *Myotis daubentonii* (in 2012 - 95 individuals, in 2013 - 84). Furthermore, from 2012 to 2013 one recorded also hibernation of a few individuals of the brown big-eared bat *Plecotus auritus* and the western barbastelle *Barbastella barbastellus*.
- Breeding roosts of bats in the nature reserve " the Nidzkie Lake" (Warmińsko-Mazurskie Voivodeship). Total population size of bats in all houses of the resort "Polanka" is estimated at a few hundred individuals. The buildings mentioned above are the sites of breeding for bats of the pipistrelle family (three species are possible: the Nathusius' pipistrelle *Pipistrellus nathusii*, the common pipistrelle *Pipistrellus pipistrellus* and the pygmy pipistrelle (*Pipistrellus pygmaeus*)), the serotine (three species are possible: the serotine *Eptesicus serotinus*, the particoloured bat *Vespertilio murinus* and the northern bat *Eptesicus nilssonii* and the whiskered myotis *Myotis mystacinus* and the Brandt's myotis *Myotis brandtii*.
- Baszta Michałowska (Mazowieckie Voivodeship) - up to 2894 bats of 9 species (G. Lesinski, A. Olszewski),
- The Mroczna Cave (Małopolskie Voivodeship) - over 100 bats (T. Mleczek),
- Szklary - the railway tunnel (Podkarpackie Voivodeship) - about 120 bats of 4 species, including the biggest number of the western barbastelle *Barbastella barbastellus* (T. Mleczek),
- Prałkowce, Fort VII (Podkarpackie Voivodeship) - over 100 bats (T. Mleczek).

- The Niedźwiedzia Cave in the Sudeten Mountains. In the newly discovered corridors of this cave, the largest hibernation site of the Geoffroy's bat *Myotis emarginatus* in Poland was found. In 2013, over 600 individuals of this species were hibernated there (J. Furmankiewicz, the University of Wrocław).
- The Kashubia (Pomorskie Voivodeship). Following the radio telemetry research conducted from 2013 to 2013, three new breeding colonies of the pond myotis *Myotis dasycneme* were found in Mylof-Zapora, Widno and Laska (A.Zapart, T. Kokurewicz, M. Ciechanowski, M. Rusiński).

One took also the active conservation measures such as:

Since 1996 Polish Society of Wildlife Friends "pro Natura" has been conducting programme and since 2009 has been realizing the project financed from EU funds: „Conservation of the lesser horseshoe bat in Poland". The project has been implemented through a series of comprehensive protective measures such as: securing 17 wintering areas of the lesser horseshoe bat through installing grilles preventing the human interference with winter rest of bats, securing summer roosts placed mostly in attics of buildings through change of roofs (in 10 places, mostly in churches), securing inlets, blackouts. The attics have been also equipped with platforms for bats' guano which significantly improves comfort of the building. Practical activities have been accompanied by inventory works and bats monitoring. The project includes actions focused on promotion and popularization of the knowledge on bats and their conservation. This is one of the most recognized chiropterological projects on a national scale.

Under the agreement with the Regional Directorate for Environmental Protection in Gorzów one renovated and repaired the securing of bunkers in Międzyrzecki Fortified Region - Museum of Fortifications and Bats, the biggest Polish winter colony of bats.

Within the scope of the project realized by the State Forests National Forest Holding (PGL LP) - "Rehabilitation of contaminated areas, former training grounds and military areas managed by PGL LP for natural purposes" co-financed by the Cohesion Fund, some former military sites were rehabilitated in order to adapt them for bats in following forest divisions : Lubsko, Choczewo, Lubaczów, Włocławek.

As a part of those works one carried out:

- **The Forest District of Labaczów** – the works aiming at securing access to shelters, large holes and close surroundings of shelters consisting in installing steel bar grilles of the diameter of 10 millimetres and mesh size of 15x50 cm, making bats migration possible, bricking up the holes and creation of new micro-habitats through putting inside bricks called "dziurawki". 20 bunkers were secured.

These structures are hibernation sites of the western barbastelle, the greater mouse-eared bat and the pond myotis - the species listed in the Annex II of the Habitats Directive. In addition, during the inventory conducted so far, one found the brown big-eared bat, the grey big-eared bat, the Daubenton's myotis, the Natterer's myotis and the serotine. This action is aimed at increasing the effectiveness of the conservation of the bats which have their winter roosts in bunkers built by the Russians in late 30's and early 40's of last century as a part of the fortifications making up so-called: "Ribbentrop-Molotov line" (so far, page 8-9).

- **The Forest District of Choczewo** - alteration of former military bunker by setting up the door, adding inside walls made of bricks called "dziurawki", placing additional inlets for bats and bricking in some of the holes.
- **The Forest District of Lubusko** - the adaptation of one object was secured through putting the door aside and bricking in the door hole, the door hole in the upper part of the height of 0.6 m was left. On the walls, 4 wooden retractable shelters for bats of size 1x1m, made of rough boards were installed. Furthermore, the walls were deprived of plaster, the holes with bricks called "dziurawki" were exposed. The basement's ceiling was covered with light debris and dirt of 1 m thickness.
- The Forest District of Włocławek modified two existing former military warehouses, adapted in 2007 for hibernaculum, through adding there partitions made of bricks called "dziurawki" and fastening them to the ceiling. **The Forest District of Rytel** realized the project completely financed from the Operational Programme "Sustainable development of the fisheries sector and coastal fishing areas 2007-2013, priority axis 4 "Sustainable development of fishing-dependent areas". The implementation of the project consisted in improving the conditions for reproduction and hibernation of bats. In the area of the forest district one hanged 1300 boxes made of light concrete in which the bats set up their breeding colonies. Apart from the summer roosts, the forest district's employees secured 3 dugouts in which bats used to

hibernate. The dugouts were equipped with double steel door with inlets' cracks which will protect hibernating bats against the predation of the mustelids and human disturbance. As bats hibernate hidden in crevices of the cool but water resistant structures of all types, the dugouts were equipped with walls made of the bricks called "dziurawki" in which the animals find many hideouts easily. In addition, for monitoring purposes, one bought the endoscope, the detector and 3 photo traps.

Furthermore, as a part of the ongoing cycle of trainings for forest rangers "Forest ranger's Academy" (so far 546 persons have been trained), in terms of nature conservation, issues connected with bats living in forests are discussed.

Within the scope of the project titled: "Conservation of bats in two voivodships' area through reducing threats, improving living conditions and promoting proper social conduct" co-financed by the National Fund for Environmental Protection and Water Management, one renovated the platform under the roof's vault of the summer colony in the church in Jaglice, secured the entrances in 13 bunkers in the area of the Szczecin Landscape Park, in the Bukowa Forest. 6 bunkers were fitted with 18 precipitation water tanks. Precipitation water is to maintain correct humidity in the room so that big differences in its parameters were not a reason for waking up the hibernated bats. One bought 5 aquariums for mealworms farming and the mealworms in order to feed bats coming from interventions. Within the scope of the project one bought and hanged many boxes for bats. Moreover, one bought the system for visual observation of the bats in the structures in the form of two inspection cameras for endoscopy in crevices, detectors and loggers. The equipment purchased within the scope of the project was used to develop the principles and select structures to improve the condition of the bats hibernation in some bunkers, to develop principles for winter monitoring and select transects for autumn monitoring as well as to conduct monitoring in the Bukowa Forest Landscape Park (Prochownia and Voluntary Fire Service at the Szamaragdowe Lake).

The Regional Director of Environmental Protection in Poznań permitted Nickel Invest to destroy bats habitat which was placed in the basements being the part of the former Brewery buildings' complex. In compensation for damaging the bats habitat, the investor built a new structure according to the design and under supervision of persons representing Polish Society for Wildlife Conservation " Salamandra" (PTOP "Salamandra") and which was merged with

existing winter roost in such a way to enable the free movement of all bats spending winter in the basements. In September 2012, the acceptance of the building took place and first bats coming to spend winter there were noticed. Now these two structures operate together. All found inlets to the old winter roost will be closed. Due to this action, the bats waken from the hibernation will be forced to use the new location and get out outside through outlets placed in new winter roost. When the bats hibernation is finished, the connection between the rooms of former and new winter roosts will be closed and the inlets to it will be secured in such a way to make getting inside impossible for bats.

In order to increase the number of summer roosts, every year, forest men hang on the lands managed by PGL LP boxes for bats (the estimated number about 7,000 every year in 430 forest districts) and upkeep the old ones.

Based on the results of the project " Spatial structure of the pond myotis' population *Myotis dasycneme* in Natura 2000 site PLH 220026 "Sandr Brdy" (Pomorskie Voivodeship) and its importance for active conservation of the species" realized with support of the Voivodeship Fund for Environmental Protection and Water Management in Gdańsk, PTOF "Salamandra", the University of Gdańsk, Wrocław University of Environmental and Life Sciences and Bat Conservation Trust (United States), one submitted request to the Regional and General Directorate for Environmental Protection for adding the pond myotis to the list of the conservation's subjects of the Natura 2000 site - "Sandr Brdy" and moving the boundaries of this site in order to cover newly discovered roosts and feeding grounds of this species. In addition, the results of the research will be used in conservation measures plans (PZO - Plan Zadań Ochronnych) which are currently prepared for the Natura 2000 sites "Młosino-Lubnia" and "Sandr Brdy" in Pomorskie Voivodeship (A. Zapart, T. Kokurewicz, M. Ciechanowski, M. Rusiński).

Similar activity is carried out by the Regional Directorates for Environmental Protection, national parks, landscape parks, non-governmental organisations as well as universities.

8. Actions aimed at promoting the awareness of the need for bats protection.

- Celebrating the year of the bat, in November 2012, the Ministry of the Environment organised a chiropterological conference. The aim of the conference was to create a

platform for discussion and exchange of experience for wider state officials of environmental protection sector, scientists, and representatives of NGO's as well as private persons dealing with or interested in bats. During the meeting, which was attended by more than 80 people, the presentation on the EUROBATS Agreement' functioning was shown.

- On 13th September 2012, the General Directorate for Environmental Protection organised the conference titled: „Conservation of habitats of animals living in cities" which concerned conservation of the habitats of anthropogenic characteristics which are used by synanthropic species of birds and bats.
- In addition, in 2012, the General Directorate for Environmental Protection organised the conference titled: "Species of bats that occur in Poland" containing drawings and descriptions of all the species of bats which occur on Polish territory.
- On 4th November 2011, the Wrocław University of Environmental and Life Sciences with the support of the Voivodeship Fund for Environmental Protection and Water Management organised the international conference titled: "Investments' environmental impact - minimalisation and principles of good practice of investing". During the conference 12 lectures were given, 5 of them by invited foreign lecturers. The conference was attended by 173 persons including 51 students of the Wrocław universities.
- The international symposium: "Importance of the sacral architecture for animals protection" took place (organised by the Committee on Nature Conservation of the Polish Academy of Sciences (KOP PAN) and Centre for Chiropterological Information of the Institute of Systematic and Evolution of Animals (CIC ISEZ) in Cracow, 27.09.2013, Czarnorzeki - Korczyna near Krosno. 27.09.2013
- The Committee on Nature of the Polish Academy of Sciences and the State Council for Nature Conservation organised the conference titled: "Nature conservation in Poland in relation to modern challenges of civilization" Cracow, 24-25 October 2013,
- 15th Environmental Assembly, co-organised by CIC ISEZ PAN, was held under the title „Bats and owls - a man's friends". The lectures were delivered by PhD Katarzyna Miłek.

- Polish Society of Wildlife Friends "pro Natura" organised from 22nd to 24th March 2013, in Krynica Zdrój, the National Chiropterological Conference "Developing active methods of bats' conservation - the use of the experiences of the project "Lesser horseshoe bat's conservation in Poland"
- In 2013 one financed and developed on the order of the Coordination Centre for Environmental Projects (CCEP) the position titled: " Guide of good practice in conservation of bats in forests" (" Podręcznik najlepszych praktyk ochrony nietoperzy w lasach") (authors: A. Rachwald, M. Fuszara). This publication is primarily intended for forest men as a set of practical examples and recommendations for better conservation of bats in forests. Probable date of printing: 2014.

The Regional Directorates for Environmental Protection in the voivodeships undertook actions concerning active conservation of bats, conducted trainings, workshops, delivered lectures and edited the educational materials on the bats' conservation. Below there is a sample summary of undertaken actions drawn up on the basis of the information sent by the Regional Directorates for Environmental Protection.

- The Regional Directorate for Environmental Protection in Bydgoszcz conducted periodic workshops titled: „Protection of birds and bats during renovation and insulation of buildings" addressed to officials, housing cooperatives, the police, city wardens, NGO's.
- Within the scope of the workshops „Closer to nature" for employees of the Powiat Starostys and municipalities from the poviats' area the questions connected with occurrence and conservation of bats in the context of insulation of buildings were discussed among others. In 2012, one carried out the workshops in the powiat towns: Torun, Inowrocław, Włocławek, Żnin, Tuchola, Brodnica, Sępólno Krajeńskie, Rypin and Aleksandrów Kujawski, which were attended by more than 1000 people in total, mainly the employees of starostys and municipalities..
- The Regional Directorate for Environmental Protection in Katowice organised an information campaign in regional press and on the web portals, November 2011 - January 2012, concerning protection of bats in sites of hibernation titled: " Peaceful sleep of a bat" and published information leaflets concerning bats' conservation titled: "Colourful shadow of the wings that is night secrets of a bat". The Regional

Directorate for Environmental Protection in Opole released the leaflet " Bats of Natura 2000 sites" within the educational campaign " Silesia grows green" , while the Opole University published an article titled: " Bats (Chiroptera) in sacral buildings of the Stobrawski Landscape Park (the Opole Region)" in magazine " Parki Narodowe i Rezerwaty Przyrody" No 31 (1) p. 71-79, 2012.

Annually in Poland, the events for the time of celebration of „Night of a bat" take place. An example can be "Nights of a bat" organised in the second half of September each year by the Centre for Chiropterological Information of the Institute of Systematic and Evolution of Animals in Cracow in cooperation with the Ojców National Park in 2010 and the Management of the Carpathian Landscape Parks and the Carpathian Branch of the Poland-East Association in the years 2011 -2013.

11th Night of Bats took place also in the area of the forest district Kołaczyce, in Czarnorzeki on 27th September 2013. The title of this year's event was: " Bats and owls - a man's friend" The organizers were: the Head of Korczyna Municipality, the Podkarpackie Branch of the Poland- East Association, the Regional Directorate of the State Forests in Krosno and the Complex of Carpathian Landscape Parks in Krosno. The event was accompanied by a photo exhibition. Professor Bronisław W. Wołoszyn was the author of the photograms displayed at the exhibition.

Educational activities are also carried out by the non-governmental organisations e.g. SdN "Wilk", PTOP „Salamandra”, SOP „BIOS”, PTPP „Pro Natura”. TP "Bocian”. A few educational programmes were carried out at schools of different levels, at the universities and even in kindergartens in different regions of Poland. Often in these campaigns the media's support is used to promote conducted works.

9. Authorities in charge, which in accordance with Article III, section 5 of the Agreement were designated to provide consultancy in management and conservation of bats

The State Council for Nature Conservation (Wawelska Street 52/54, 00-922 Warsaw)
and

the General Directorate for Environmental Protection (Wawelska Street 52/54, 00-922 Warsaw)

10. Other actions concerning bats conservation. Completed and ongoing programmes (excluding research and political initiatives) connected with conservation and management of the bats' population

- Among the sites of Natura 2000 in Podkarpackie Voivodeship there are many structures where the bats' habitats, including breeding colonies, feeding grounds and winter roosts are protected. In this connection, in Podkarpackie Voivodeship, the project "The horseshoe bat +. Conservation of the lesser horseshoe bat and other species in Southern Poland". Within the scope of this project, which is a continuation of the actions which have been undertaken since 1996 by Polish Society of Wildlife Friends "pro Natura", one anticipates a number of actions on active conservation i.e. renovations of building's roofs, installation of platform for guano, renovations of grilles, development of green spaces around buildings-roosts, plantings, green care. It should be stressed that the project is implemented mainly there, where habitats of bats are close to the areas inhabited by humans so it has influence on the environmental education of the society and building a positive image of the nature conservation.
- In Dolnośląskie Voivodeship, in 2012, Polish Society of Wildlife Friends "pro Natura" and the State Forests completed (within the scope of the project "Conservation of summer and winter sites of bats' occurrence in selected structures in Dolny Śląsk") following activities: removing guano in residential buildings and churches, change of entrance gates in bunkers, in tunnels, anti-corrosion maintenance of grilles.
- Due to the possibility of "white nose syndrome" occurrence, one collected dead bats or sampled mould from infected individuals and transferred it to the National Veterinary Research Institute (PIB- Państwowy Instytut Badawczy) in Puławy. One also carried out among chiropterologists informational activities concerning this disease.
- Within the scope of the project "Fungi communities in bats' hibernaculum" with regard to environmental aspects", one commenced research on "white nose syndrome" in undergrounds of Natura 2000 site- "Nietoperek" (PhD. K. Matkowski, PhD. T. Kokurewicz, PhD. W. Pusz, the Wrocław University of Environmental and Life Sciences)

- Post investment monitoring of the expressway S3 in the section between Szczecin and Gorzów Wlkp. showed reduced mortality of bats in places where special mobile lifting frames had been installed. However the ways of making measurements (motion detection) don't allow to determine clearly if bats take use of the mobile lifting frames in expected way i.e. flying over them. The study indicates rather acoustic screens as a main factor to reduce mortality of bats.

11. Research activity.

During the reporting period the following research programmes concerning bats were realized:

- The study on the spectrum of changes in animal metabolism rate in response to changing environmental conditions (the Nicolaus Copernicus University in Toruń),
- Determination of the grilles' impact on swarming activity of bats (the Wrocław University),
- Searching for bat-detering sounds (the Wrocław University) - completed with development of the first Polish ultrasonic detector in cooperation with the Wrocław acoustic company - Animal Sound Labs within the scope of the project titled: *"Development and implementation of the modern methods of non-invasive environmental monitoring and their usage in endangered species' conservation"* (PhD Joanna Furmankiewicz - Department of Ecology's Biology, Faculty of Biological Sciences).
- The sensory basis of prey detection by the brown long-eared bat *Plecotus auritus* (the Wrocław University),
- Bats swarming at caves' entrances in southern Poland (PhD. Krzysztof Piksa, the Pedagogical University of Cracow),
- Research on bats in the context of the fight against mosquitoes (Joanna Kohyt of the Department of Ecology at the University of Silesia in Katowice),
- Migration behaviours of the noctule *Nyctalus noctula* (the Mammal Research Institute of the Polish Academy of Sciences in Białowieża),
- Determination of bat species in diet of owls on the basis of pellets - the Bory Tucholskie National Park,

- Species composition of bats in the Lublin Region - the Lublin Ornithological Society in cooperation with Teriological Section of the Biologists' Society at the Maria Curie-Skłodowska University in Lublin

"Changes in selected species of the zooceonosis based on long-term observations carried out in Białowieża Forest." the Orderer: the State Forests, the Researcher: the Forest Research Institute. A part of the study concerns bats - it is planned to obtain some information on occurrence of these animals in selected forest stands of the Białowieża Forest. The data obtained will allow to determine the variation of the bats species density on different surfaces. Lead time: 11 March 2011 - 31 December 2015

"Bats occurrence in the forests depending on the age, spatial structure and species composition of the forest stands". the Orderer: The State Forests, the Researcher: the Poznań University of Life Sciences. The aim of the study is to identify the occurrence of bats in the forests depending on the age, spatial structure and species composition of the forest stands. Lead time: 12 April 2012 - 31 March 2015.

- "Population structure and bat predation analysis of pine marten (*Martes martes*) and stone marten (*Martes foina*) in "Nietoperek" (researchers: Waterford Institute of Technology (Ireland), the Vincent Wildlife Trust (United Kingdom), the Wrocław University of Environmental and Life Sciences)

- "Fungi communities in hibernaculum of bats with regard to environmental aspects" (researcher: the Wrocław University of Environmental and Life Sciences);

- "Bat assemblages in the „Nietoperek” bat reserve (Western Poland) and their conservation strategies” (researchers: Universidad de Vic - Fundacio Universitaria Balmes (Spain), Wrocław University of Environmental and Life Sciences).

- "Monitoring Human Disturbance at Nietoperek Bat Reserve” (researchers: Bat Conservation Trust (United Kingdom), Vincent Wildlife Trust (United Kingdom), the Wrocław University of Environmental and Life Sciences,

- "Bat migrations from Germany to Poland” (researchers: Sächsisches Landesamt für Umwelt, Landwirtschaft und Geologie, Fledermausmakierungszentrale, Dresden, Germany, the Wrocław University of Environmental and Life Sciences)

- "Bat monitoring programme in the Natura 2000 site "Nietoperek” (researchers: Bat Conservation Trust, Vincent Wildlife Trust, Leeds University, United Kingdom,

Brussels Institute of Environmental Management, Natuurpunt, Belgium, Sächsisches Landesamt für Umwelt, Landwirtschaft und Geologie, Fledermausmakierungszentrale, Germany, the Forest Research Institute, the University of Gdańsk, the National Foundation for Environmental Protection, the Wrocław University of Environmental and Life Sciences)

12. Activities aimed at potential results of pesticides impact on bats and their foraging resources and efforts aimed at replacement of timber treatment chemicals that are highly toxic to bats

No activities.

D. Operation of the Agreement.

13. Cooperation with other states to which the Agreement applies.

Ongoing since 1999, annual counting of bats in the Nietoperek Reserve has been carried out with participation of chiropterologists from abroad: the United Kingdom, Germany, Holland, Belgium and Lithuania. In the years 1985-2008, in the area of "Nietoperek" a statistically significant increase in the population of multispecies colony of bats was observed. From 2008 to 2011 a decline was recorded and in 2012 and 2013 another increase of population which confirms good state of this wintering area. The result of the bats counting in 2013 is over 37,000 bats representing 10 species.

In 2010 two chiropterologists from Poland participated in the project financed from EUROBATS resources (European Projects Initiative -EPI), concerning bats conservation in Albania.

An agreement for the years 2013-2015 was signed between Poland and the Romanian Academy of Sciences. The main objective is continuation of the ABC Project (Atlas of bats of the Carpathians) in cooperation with PhD. Dumitru Murariu of the Natural History Museum in Bucharest. A large part of the text of the atlas is ready; the electronic version will be ready by the spring 2015. The institutions which participate in the project are: the Institute of Systematic and Animal Evolution of the Polish Academy of Sciences and the National Museum of Natural History in Bucharest. Polish party is represented by Professor Bronisław W. Wołoszyn.

At the end of 2013, Poland, together with other EU states, commence to work on the document titled: *Action plan for the conservation of the bat species (Chiroptera sp.) in the European Union.*

14. Actions taken to implement the Resolution approved by the Conferences of the Parties.

Resolution 4.4. regarding protection of bats in forests.

The leaflet of EUROBATS: „Bats and forestry" was translated into Polish.

Resolution 6.5. regarding ethics for research on bats and practical rules for bats treatment.

On the web pages of the EUROBATS Agreement Polish guidelines under the title: „*Principles of bats treatment during inspection of winter and summer roosts.*”

Other resolutions

The EUROBATS Secretariat's publishing series No. 2-4 were translated into Polish.