

4th Adriatic Flyway Conference

Reducing threats for migratory birds in the Mediterranean

25th-29th April 2022, Zadar, Croatia

Book of abstracts



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4th Adriatic Flyway Conference - Reducing threats for migratory birds in the Mediterranean, 25th-29th April 2022, Zadar, Croatia – Book of abstracts

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DAY 1. Monday 25th April 2022

| | |
|---------------|--|
| 10.00 - 20.00 | Registration |
| 15:00 - 20:00 | Technical session: uploading presentations, checking compatibility with the host software, installation of posters |
| 18:00 - 20:00 | <i>Ice-breaker</i> – drinks & chats |
| | Video session |
| 20:00 | Dinner |

DAY 2. Tuesday 26th April 2022

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|-------------|--|
| 9:00 – 9.30 | <i>Opening:</i> Welcome & Introduction Stefan Ferger, EuroNatur Damir Perić, Director of County Nature Protection Office Tibor Mikuska, Croatian Society for Birds and Nature |
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Session 1: Illegal killing (moderator: Stefan Ferger)

| | |
|---------------|--|
| 09:30 - 10:00 | Papazoglou C. (<i>plenary presentation</i>) International collaboration under CMS MIKT for eradicating illegal killing of birds: history and milestones |
| 10:00 - 10:20 | Mikuska T., Slocinski B., Tomik A., Budinski I., Grgić M. Illegal killing of birds in Croatia – would it ever stop? |
| 10.20 - 10:40 | Zagoršek T. Koce U. Illegal killing and hunting of birds in Slovenia |
| 10:40 - 10:50 | Short break |
| 10:50 - 11:10 | Sarajlić N., Kotrošan D., Topić G., Topić B., Vekić J., Dervović T., Oneščuk Z. Adriatic Flyway 4 in Bosnia and Herzegovina - Colaboration for birds |
| 11:10 - 11:30 | Ružić M., Jovanović S., Mirić R., Marković S. Illegal killing of birds in Serbia between 2018 and 2021 |
| 11:30 - 11:50 | Zeković B., Lekić M. Combating IKB in Montenegro – results, challenges and opportunities |
| 11:50 - 12:10 | Xeka E., Vorpsi Z., Duro K., Bino T. Illegal Killing of Birds in Albania overview 2018-2022 |
| 12:10 - 12:30 | Coffee break |
| 12:30 - 12:50 | Budinski I., Slocinski B. Common types of illegal killing of birds in Croatia; how to recognize and tackle them |
| 12:50 - 13:10 | Lappe-Osthege T. Policy challenges and crime dynamics in the illegal songbird trade in Europe: Examining the role of green-collar crime |
| 13:30 - 15:00 | Group photo and Lunch |

Session 2: Electrocution and collision (moderator: Ilka Beerman)

| | |
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| 15:00 - 15:30 | Rožac V., Frank G., Vereš M., Škoro M., Marušić M. (<i>plenary presentation</i>) LIFE DANUBE FREE SKY – Transnational conservation of birds along Danube River |
| 15:30 - 15:50 | Ramirez I. The CMS Energy Task Force and relevance for the Adriatic Flyway |
| 15:50 - 16:10 | Mihelič T., Höfferle P. Experiences, knowledge and future steps in regards to electrocution mitigation on middle voltage powerlines in Slovenia |
| 16:10 - 16:30 | Angelov D., Lisichanec E., Nakev S., Avukatov V., Uzunova D. Paving the way to understanding and preventing bird electrocution in North Macedonia |
| 16:30 - 16:50 | Zec M., Delić D. Facilitating EIA guidelines for powerlines in Croatia: The Why and the How |
| 16:50 - 17:20 | Coffee break |
| 17:20 - 17:40 | Noby K., Ezat M., Baha El Din S., Naguib M., Van Langevelde F. Bird fatality due to per lines collision in Egypt - which variables make the difference? |
| 17:40 - 18:00 | Clavero H., Numa C. A toolkit to boost capacity building and promoting work on power lines and birds in the Mediterranean |
| 18:00 - 18:10 | Introduction to field trip |
| 18:10 - 19:15 | Poster session / Side meetings |
| 20:00 | Dinner |

DAY 3. Wednesday 27th April 2022

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| 09:00 - 17:00 | Field trip to Pag Island (incl. packed lunch) |
| 17:30 - 20:00 | Side meetings AF4 core team side meeting (tba) |
| 20:00 | Dinner |

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|--|--|
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| 09:30 - 09:50 | Pantović U., Andevski J., Duro K., Selkegej L., Dervović T., Peshev H., Dobrev D., Fabijanić N., Saravia V., Manoka Z.A.S., Petrovski N., Starova A., Vukićević A. Wildlife poisoning in the Balkan Peninsula |
| 09:50 - 10:10 | Vukićević A., Ružić M., Jovanović S. Poisoning of wild birds in Serbia between 2018 and 2021 |
| 10:10 - 10:30 | Duro K., Xeka E., Bino T. Wildlife Poisoning in Albania |
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| 12:10 - 12:50 | Conference declaration - discussion and adoption |
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| 15:20 - 15:40 | Popov D., Meshkova G. Conservation and restoration of Pomorie Lake coastal lagoon |
| 15:40 - 16:00 | Mikuska A., Tomik A., Grgić M., Mikuska T., Mijatovic M., Rakitić A., Ledinišćak., Dvoržak D Importance of Pag and Nin salinas for migratory birds and need for their formal protection |
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| 16:50 - 17:10 | Sackl P., Orda-Dejtzer C., Šoškić M., Zeković B. First results and conservation perspectives of the bird monitoring in the Ulcinj Salina, Montenegro |
| 17:10 - 17:30 | Bino T., Ulqini D., Xeka E., Duro K., Sevo B., Ibrahim E. The impact of illegal killing of bird in the reduction of bird numbers at Bune-Velipoje Landscape Protected Area |

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The impact of illegal killing of bird in the reduction of bird numbers at Bune-Velipoje Landscape Protected Area

Taulant Bino^{1*}, Denik Ulqini², Erald Xeka¹, Klea Duro¹, Besjana Sevo¹, Eliana Ibrahim³

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²Association for the Protection of Aquatic Wildlife in Albania

³Faculty of Natural Sciences, University of Tirana

Keywords: Bune-Velipoje, wetlands, waterbirds, illegal killing of birds, conservation measures.

Bune-Velipoje is a Landscape Protected Area situated in the north-western part of Albania, at the border between Albania and Montenegro. It is composed by a set of wetland sites including river Buna and its delta, riparian forests, reedbed marshes, temporary marshes, floodplain and some small lagoons. The site has been subject of waterbird census since 1993 and it has demonstrated through years to shelter many breeding and wintering birds.

A mixed colony of Herons and Cormorants, once present in the Albanian side of Buna river outlet, has abandoned Albania and breeds now in Ada island, on the Montenegro side of the river.

Once, an important site for wintering waterbirds, today the number of waterbirds has been drastically reduced. The average number of c. 4,000 waterbirds in 1993-2012 has fallen to c. 1,400 birds for the period of 2013-2022. The trend for 1993-2022 is negative and keeps going down.

Several factors might be responsible for the decrease of bird numbers including poaching, human disturbance, overfishing and urbanization.

The authors detail the impact of the above factors paying much attention to the impact of illegal killing of birds in the long-term average of bird numbers. As a matter of fact, the area has been under continuous and increased pressure from poaching and bird trapping. This factors are cumulative to the latest enlargement of urban sprawling and the related human disturbance and degradation of wetland habitats.

Finally, the authors consider several conservation measures needed for the recovery of birds and wetland habitats in the Bune-Velipoje Landscape Protected Area.

Common types of illegal killing of birds in Croatia; how to recognize and tackle them

Ivan Budinski^{1*}, Boleslav Slocinski¹

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Keywords: illegal killing, poisoning, poaching, trapping, birds, Croatia

Fight against illegal killing and taking of birds can be divided according to several commonest types of wild bird killing or trapping and consequently, required activities are more or less different. The most common types of wildlife crime which threatens birds in Croatia are: shooting of strictly protected species during otherwise legal hunting including deliberate killing of raptors and careless shooting; poaching of game species using illegal techniques or during non-hunting season; poaching in non-hunting areas; accidental poisoning during illegal poisoning of wild canids; deliberate poisoning and persecution of raptors; and live trapping of songbirds for cage birds. Each type is described and the best experience-based practices how to predict, recognize and tackle in the field are presented. This is a practical knowledge that is often unsystematically shared among bird conservationist that results in slow adaptation of new team members or completely new teams, so more systematic approach and best practice guides are needed.

Wildlife crime and its prosecution in Spain

Daniel Redondo Gómez¹, Zebensui Morales Reyes², Eva Blasco Hedo³, José Guirado Mendoza⁴, Ana Paula García Nieto⁵, Blanca Muyo Redondo³, María Pascual Nuñez³, David Mercadal Cuesta³, Laura Moreno Ruiz⁶, Silvia Díaz Lora^{6*}, Carlos Cano⁶, Carlos Javier Durá Alemañ³

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Keywords: conservation management, crime prosecution, detection protocols, human-wildlife conflict, wildlife conservation, court judgements

Wildlife crime is a direct attack on biodiversity and seriously affects ecosystems. Despite the existence of regulations prohibiting these crimes, they are not always adequately enforced. The European LIFE project SWiPE compiles information on offences and crimes against wildlife committed in 11 countries over the period 2015-2020. Here, we evaluated the response of the agents involved in the prosecution of these crimes in Spain. We also analysed the legal framework and the main limitations for detecting and prosecuting them, including recommendations for a more effective prosecution. More than 3000 cases of wildlife crimes in Spain have been collected between 2015 and 2020. Of those cases, only a small proportion of wildlife crimes (10%) end in court proceedings. The real dimension of the problem is much greater, as only a small part of the cases is detected. Of the total number of detected cases and sentences, 1188 cases and 15 sentences involved shooting, 767 cases and 26 sentences involved poisoning, and 358 cases and 26 sentences involved illegal possession/capture. The total number of animals affected amounted to around 3000 individuals. Raptors and fringillids were particularly affected by poisoning and illegal possession/capture, respectively. The red kite (*Milvus milvus*), common kestrels (*Falco tinnunculus*), common buzzards (*Buteo buteo*), black kites (*Milvus migrans*), Eurasian eagle owls (*Bubo bubo*), northern goshawks (*Accipiter gentilis*), Eurasian sparrowhawks (*Accipiter nisus*) and griffon vultures (*Gyps fulvus*) were particularly common among the cases recorded. The red kite and common kestrel are endangered in Spain and poisoning is one of the causes that most affect their survival. There is a general perception that these crimes are minor offences, and resources and specialised agents to investigate and prosecute wildlife crimes are scarce. In addition, environmental regulations are heterogeneous across the country, and data on wildlife

crime are scattered, with no centralised database that compiles these cases. To improve the detection and prosecution of wildlife crime in Spain, we recommend: (1) reinforcing legislation by increasing penalties, facilitating more effective police investigation techniques; (2) providing ongoing specialised training that increases the motivation and raises the awareness of the actors involved; (3) improving cooperation and coordination among the different bodies, authorities and institutions; (4) dedicating more and more specialised resources to investigating and prosecuting these crimes.

**Policy challenges and crime dynamics in the illegal songbird trade in Europe:
Examining the role of green-collar crime**

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Keywords: illegal bird trade; crime; enforcement; policy; compliance; Southeastern Europe

This research assesses the challenges in effectively regulating the transboundary dynamics that drive the illegal songbird trade in Europe, exploring whether current policy interventions are well suited to mitigate the deeper socio-ecological drivers of supply and demand for illegal bird products. The analysis indicates that the current design of conservation policies and responses to curb the illegal bird trade across different jurisdictions overlook that it is in part driven by patterns of crime displacement, whereby enforcement and compliance of environmental policy within the EU exacerbate the problem of bird crimes in other contexts, for example the Western Balkans. These patterns are enabled by a misfit between institutional response and the cross-jurisdictional nature of bird crime in Europe. As a result, policy responses often place misguided focus on enforcement-led approaches in source countries, targeting predominantly organized criminal networks, while overlooking the involvement of other actors and interests, which do not neatly fall into the category of organized crime, and failing to address illicit consumption of bird products within the EU. The paper redirects this focus by introducing the notion of green-collar crime. Green-collar crimes are a particular form of environmental crimes that are committed by legally registered companies, which are knowingly or unknowingly involved in illegal activities or use their infrastructure to facilitate illicit trade. Analyzing the cases of Cyprus and Italy, the paper aims to understand the impact of green-collar crimes on bird conservation across major flyways and on environmental policy-making within the EU and its neighbourhood. Fusing political ecology and green criminology, this research has the capacity to transform approaches to regulation and enforcement for tackling the illegal trade in birds and other species; it casts light on the importance of tackling green-collar crime, thereby widening out from a narrow focus on the role of organised crime networks and creating a more comprehensive understanding of supply and demand dynamics for illegal bird products in Europe.

Illegal killing of birds in Croatia – would it ever stop?

Tibor Mikuska^{1*}, Boleslaw Slocinski², Adrian Tomik¹, Ivan Budinski², Marina Grgić²

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²*Association BIOM, Čazmanska 2, Zagreb, Croatia;*

Keywords: illegal killing, Croatia, hunting, bird crime, poisoning,

With an average of 500.000 birds illegally killed or taken per year Croatia is a well known IKB hotspot on the Balkan peninsula. Despite common knowledge about the scale and negative consequences of IKB on bird populations, the majority of activities to tackle and curb IKB in Croatia are left to dedicated NGOs with little or no help from official governmental organisations or hunting associations. We would present changes, both positive or negative, achieved from 2016 onwards in order to scale down IKB. These include legislative changes, field efforts on IKB hotspots, lobbying and public awareness raising.

International collaboration under CMS MIKT for eradicating illegal killing of birds: history and milestones

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¹*MIKT Coordinator, CMS Secretariat, *e-mail: Foteini.papazoglou@cms.int*

Keywords: IKB, Rome Strategic Plan, illegal killing, illegal taking, illegal trade, MIKT

Action against Illegal Killing, Taking and Trade (IKB) of migratory birds in the Mediterranean has been a concern of the Convention on Migratory Species (CMS), the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA), and the Bern Convention for decades. In 2014, the CMS COP11 adopted Resolution 11.16 (Rev.COP13), which called on the Secretariat to convene an Intergovernmental Task Force on Illegal Killing, Taking and Trade of Migratory Birds in the Mediterranean (MIKT). At its first meeting in 2016, MIKT adopted a Programme of Work for the period 2016-2020.

In that period, in 2016 and 2017, BirdLife International published two peer reviewed studies estimating that as many as 26.2 million birds could be getting killed illegally every year in the Mediterranean, Northern and Central Europe and the Caucasus. It was estimated that most of those birds were killed in the Mediterranean and most of them were passerines.

These BirdLife International studies indicating the extent of the problem further galvanised the willingness among countries and stakeholders to act to eradicate IKB. Since 2017, MIKT has been collaborating and convening joint meetings with the Bern Convention on IKB issues.

At the 3rd Joint Meeting of MIKT and Bern Convention Special Focal Points (SFPs) on IKB in 2019 in Rome, the *Rome Strategic Plan 2020-2030: Eradicating Illegal Killing, Taking and Trade in Wild Birds in Europe and the Mediterranean region* was developed. The generous support of the European Union since the establishment of MIKT has ensured that the CMS Secretariat has had a Coordinator for MIKT since 2016, ensuring that members of MIKT have been kept informed of progress, activities implemented and progress achieved.

Because IKB is a complex problem related to various drivers and motivations, many measures are usually needed for effective action against IKB. In consequence, all initiatives to eradicate IKB, including the *Rome Strategic Plan*, have the following common objectives:

- monitoring and understanding the scope and scale of IKB, as well as the drivers and motivations
- having effective laws for tackling IKB

- having effective and efficient enforcement
- having effective and efficient justice and courts
- having a programme of prevention of IKB linked to awareness raising.

In June 2022, the 4th Joint Meeting of MIKT and Bern Convention SFPs will be held. At this meeting, progress is expected on issues including monitoring the scale and scope of IKB; monitoring IKB motivations through socio-economic surveys; outlining characteristics of efficient and effective legislation; and a common format and guidance for developing national IKB Action Plans. Additionally, MIKT members and observers will exchange recent developments in their countries and translations of key documents in French and Spanish will be shared with participants.

The work of MIKT in the Mediterranean is also being used as an example for similar initiatives in other parts of the world, such as the East-Asian Australasian Flyway, and the Arabian Peninsula, Iran and Iraq.

Socioeconomic analysis of perceptions and causes of IKB in the Neretva delta

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Keywords: illegal killing, Neretva Delta, socio-economic study, perception

Two out of three men in the Neretva delta regularly consume Coot (*Fulica atra*) meat. The Neretva delta is known as a place with a strong tradition of waterfowl meat consumption and as a black spot for illegal killing of birds. Association Biom presents results of the very first socioeconomic analysis of perceptions and causes of illegal killing of birds in the Neretva delta.

Illegal killing of birds in Serbia between 2018 and 2021

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Keywords: wild birds, bird crime, poaching, trapping, bird conservation

Monitoring of illegal killing of birds (IKB) was performed in Serbia between 1 January 2018 and 31 December 2021. We monitored cases of IKB where wild birds were shoot by fire arms and air guns, as well as trapped with the intention of killing. Within the 4-year period a total of 388 such cases were registered; 133 cases in 2018, 71 case in 2019, 112 cases in 2020, and 72 cases in 2021, out of which 376 (96.9 %) were committed with fire arms and air guns, and 12 (3.1 %) with traps, respectively. All together 47 wild bird species were affected. The majority of cases were related to the Common Quail (*Coturnix coturnix*) poaching by using illegal calling devices (201 cases or 51.8 %). A total of 706 affected individuals of wild birds were discovered, of which 691 (97.9 %) individuals were found dead and only 15 (2.1 %) were found alive and later rescues or rehabilitated. Illegal bird crime cases were registered in 106 municipalities, and in 239 settlements across the country. Illegal killing of birds continues to be a major threat to wild bird populations in Serbia, while response of the institutions is still inadequate and weak.

Adriatic flyway 4 in Bosnia and Herzegovina – Collaboration for Birds

Nermina Sarajlić^{1*}, Dražen Kotrošan¹, Goran Topić¹, Biljana Topić¹, Josip Vekić², Tarik Dervović¹, Zlatko Oneščuk¹

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Keywords: Hutovo blato, Livanjsko polje, Mostarsko blato, illegal bird killing, collaboration

Because of their significance as wintering, stopover, and breeding sites for waterbirds and raptors, Hutovo blato, Livanjsko polje and Mostarsko blato were selected as a target sites of the Towards a functioning system of stop-over and wintering sites for migratory birds along the Adriatic Flyway – Phase 4 (AF4) project in Bosnia and Herzegovina. During the Adriatic Flyway project, the rate of illegal hunting of birds has been reduced by forming a collaboration between Ornithological Society Naše ptice, ranger service of Hutovo blato Nature park, local NGOs and members of hunting societies, and cantonal and federal inspectorates and forming joint teams that were performing the monitoring of illegal activities.

Intensity of illegal hunting on Velo blato Ornithological Reserve assessed from empty gun cartridges

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Velo blato Special Ornithological Reserve is one of the largest and most important wetlands on Pag Island. It is important for numerous migrating and wintering waterbirds as well as for breeding species. From 2019-2021 we have carried out regular monthly bird monitoring counts combined with systematic survey of the lake shore in search of empty shotgun cartridges in order to assess the Intensity of illegal hunting in the Reserve.

In total, we found 387 empty cartridges, most of them on the south side of the lake, including new ones found regularly. The cartridges were most often found between the groups of rushes (*Juncus sp.*) which served as a hide for the hunters. The highest number of new cartridges were found during the peak of spring (March-April) and autumn (October-December) migration of ducks. Most intensive illegal hunting occurred during spring migration. We suspect that the perpetrators are local people and as a solution to this issue we recommend the installation of permanent visible surveillance cameras.

Illegal Killing of Birds in Albania overview 2018-2022

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Keywords: Illegal killing, Hunting ban, Wildlife, National Action Plan

Albania was listed among 10 Mediterranean countries with bad records of illegal killing, with an estimation of 206.000-325.000 birds being killed each year during 2004-2014 (*Brochet et al. 2016*). Given the circumstances and the continuous pressure from environmental NGOs, the Albanian government established in 2014 a hunting ban that lasted until 2021. The expected effect was partly achieved during 2014-2015 only. Hunting tourism, practiced by foreign hunters and responsible for more than 160,000 birds, mostly Eurasian Skylarks *Alauda arvensis*, was halted and provided quite encouraging results. Furthermore, the structures responsible for the enforcement of the hunting ban were initially motivated to halt poaching. The majority of the hunters respected the hunting ban hoping it would help the recovery of game species and improvement of hunting policies and legislative framework.

In November 2018, the Albanian Ministry of Tourism and Environment accepted AOS proposed amendments to the law for the protection of fauna for establishing of the National Council of Wild Fauna (NCWF). The proposed amendment was approved in July 2019. According to the amended law, the NCWF is an advisory body to the Minister of Environment and will contribute to the facilitation of the implementation of the provisions of the law on the wild fauna and other bylaws. The main functions of the NCWF consist of advising and contributing to the design of fauna inventory programs, annual plans on fauna management, projects for the development of fauna, the hunting calendar, list of game species for each hunting season, and the establishment of annual quotas. The NCWF was held twice since its establishment and enabled us to discuss very important issues, such as the possibility of extending the hunting ban, the establishment of a National Action Plan about the illegal killing of birds.

Despite the early successes, the legislative changes and the hunting ban did not produce long-term results in reducing and controlling the illegal killing of birds in Albania.

Three pilot sites with bad records on the illegal killing and taking of wild birds were monitored during 2018-2022 by two teams (AOS & PPNEA). Four Anti-poaching camps

have been organized with the participation of the relevant institutions. In Semani river outlet and Terbufi plain, AOS has reported 35 cases of illegal killing of birds, 26 hunting hides were burned/destroyed, 2 calling devices have been confiscated, and over 1000 killed birds have been recorded from social media.

In addition, AOS has regularly monitored 15 pet shops for songbirds, 10 restaurants that trade wild meat and all the cases were reported to the responsible authorities. In Lalzi bay, PPNEA has gathered information on counting the gunshots, calling devices, and hunting hides, 6 lure tapes were confiscated out of 10 devices identified and 39 hunting hides were destroyed. In addition, 18 wild meat restaurants were denounced and more than 30 cases of poaching were recorded in the area.

More importantly, one new wetland Protected Area has been proposed to the MTE while another one has been enlarged.

Despite the progress, it is obvious that IKB could be reduced and controlled through policy and legislative changes, improvement of control capacities, better monitoring of game and non-game bird species. A National Action Plan to combat the illegal killing and taking of birds is strongly needed.

Illegal killing and hunting of birds in Slovenia

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Keywords: illegal bird killing, Adriatic Flyway, Slovenia, firearms, bird hunting, illegal bird trade

Abstract

We have always believed that Slovenia is a kind of oasis for migratory bird species where they are safe from illegal killing. During the past four years of working on the Adriatic Flyway 4 project, we can sadly say that this isn't so. The data that we have gathered during the course of the project are pointing at Slovenia as a country where illegal killing of birds is a widespread problem that needs to be tackled and actively prevented.

In the past four years, we have collected evidence of birds being illegally killed or hunted with firearms, like air rifles and shotguns. Victims of illegal killing with firearms are most often fish-eating bird species like Grey Heron (*Ardea cinerea*) and Great Egret (*Ardea alba*). Occasionally, birds of prey like the Golden Eagle (*Aquila chrysaetos*), Peregrine Falcon (*Falco peregrinus*) and owl species like Eagle Owl (*Bubo bubo*) and Long-eared Owl (*Asio otus*), are shot, too.

It is undeniable that the activity of live bird hunting with limesticks and traps that supposedly died out after the end of the second world war is not so dead in Slovenia after all. Birds are still being illegally hunted by these means, as well as mist-nets. The most common victims are songbirds (Passeriformes) that are being hunted for breeding and sold as pets, presumably most often on the Italian black market. This type of hunting is widespread in Slovenia's central and west regions. Wild birds are hunted and kept in cages, from small songbirds to owls and birds of prey. We have registered cases of Tawny Owls (*Strix aluco*), Ravens (*Corvus corax*) and even Cuckoo (*Cuculus canorus*) being kept as pets.

In the past four years of systematic data collecting, we have also recorded cases of intentional and unintentional poisoning of birds. The most massive poisoning of birds was recorded in 2018 where 167 individuals of Black-headed Gull (*Larus ridibundus*) were poisoned with unidentified poison near Ptuj Lake (East Slovenia). Similar poisoning occurred in 2019, but we found a small number of dead birds. We have data that among

victims of poisoning were also the White Stork (*Ciconia ciconia*), Buzzard (*Buteo buteo*), Western Marsh Harrier (*Circus aeruginosus*).

Slovenia is also an important transit country for the illegal trafficking of birds from the Balkan countries to the black markets of Italy or Malta. It was estimated that tens of thousands of dead or alive birds are transported over Slovenian borders every year. These birds are not being hunted as trophies but are being sold on the black market for consumption in petite high-class restaurants. Cases discovered so far call for intensified systematic inspection of the transit.

Adriatic Flyway 4 is the first-ever project dealing with the problem of illegal hunting, killing and keeping birds in Slovenia. The project gave us an important insight into this issue in Slovenia. DOPPS' mission is that Slovenia becomes a safe oasis for migratory birds and we are working towards adoption of this mission also by the government institutions.

Detection of illegal killing of birds with the help of an x-ray machine

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Keywords: illegal bird killing, X-RAY scanner, bird scanning, Slovenian Museum of Natural History, firearms

Illegal killing with firearms is very hard to detect since the evidence in nature disappears very quickly. The carcass of the dead bird usually doesn't stay in a place for a very long time. In Slovenia, the Slovenian Museum of Natural History is the only state museum which is responsible for the collection, conservation and exhibition of elements of the natural heritage of Slovenia and the only institution where carcasses of protected bird species can be collected. According to the Slovenian law (Official Gazette of the Republic of Slovenia, Nos. 46/2004), the Slovenian Museum of Natural History is responsible for collecting found carcasses of protected species with priority access and all found carcasses of protected species should be delivered to the Museum. This status enables building up a comprehensive collection of specimens that can be used for scientific, conservation and other purposes needed by the society. In the study, we included all larger bird specimens accessed by Museum in the period from 2001 and 2021. We thus selected 573 specimens of 116 species to be scanned using an X-RAY scanner for possible evidence of a shooting. The specimens have been scanned at the Veterinary Faculty (University of Ljubljana) and the Department of antibomb protection of the National Bureau of Investigation. Among scanned specimens, 3,49 % were illegally shot (20 specimens out of 573) representing 12 bird species: Golden Eagle (*Aquila chrysaetos*), Long-eared Owl (*Asio otus*), Buzzard (*Buteo buteo*), Black-headed Gull (*Chroicocephalus ridibundus*), White Stork (*Ciconia ciconia*), Raven (*Corvus corax*), Peregrine Falcon (*Falco peregrinus*), Kestrel (*Falco tinnunculus*), Griffon Vulture (*Gyps fulvus*), Yellow-legged Gull (*Larus michahellis*), Merganser (*Mergus merganser*) and Great Cormorant (*Phalacrocorax carbo*). The cases of illegally shot birds are scattered all around Slovenia; therefore, detecting such actions is very challenging. Also, the knowledge among the general public to take and hand over to the Museum the found carcasses of birds is still on a deficient level. Many cases of illegally shot birds in that regard stay unnoticed or unknown. For that, we can undoubtedly say that the number of illegally shot birds is much higher than detected.

Combating IKB in Montenegro – results, challenges and opportunities

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Keywords: hunting, illegal mean, tape lure, illegal bird killing

The situation in hunting in Montenegro has long been described as alarming, to the extent that the killing of non-game and even protected species has become the daily routine. Also, the illegal means such as tape lures, decoys, etc. are still widely used within the hunting season.

From 2018 until 2022, Center for Protection and Research of Birds conducted many activities related to combating illegal killing of birds (IKB) via conducting monitoring, policy, advocacy, raising awareness, educational and other activities.

Despite the fact that the need for resolving IKB in Montenegro escalated in 2021 and it was “the last straw” and invitation to the Montenegrin Government to act radically and strongly as soon as possible to tackle it, not much progress has been made. The IKB issue in Montenegro remains its “status quo” but few opportunities arise ahead.

Paving the way to understanding and preventing bird electrocution in North Macedonia

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Keywords: electrocution, collision, monitoring, birds

Bird electrocution and bird collision has never been studied systematically in North Macedonia. Majority of incidents that have been registered are a result of report from locals and/or electricity company collaborators. There have been few instances where we have been witnesses to the electrocution as a result of the monitoring of a specific species. The energy sector in N. Macedonia is divided in three major industry representatives: production (energy produced by windfarms, hydro-power plants, thermal power plants), transmission (national and international transfer of produced and/or imported energy via high-voltage powerlines) and distribution (transporting energy to small scale users – medium and low voltage powerlines). None of these industry representatives have no legal requirements to install bird protection sets on their powerlines (high-, medium- and low-voltage). However, there has been expressed interest of the energy companies to undertake bird protection activities when there's the possibility of protection of a flagship species, which grants them a chance to obtain a corporate social responsibility nomination or award. The Adriatic Flyways 4 project implementation in North Macedonia from 2018-2022 was focused on tailoring a systematic approach to establishing the electrocution rate in two IBAs in North Macedonia – the Ovce pole and the Koçani rice fields. These two IBAs support the biggest and the densest part of the national populations of two species of conservation concern – the Eastern Imperial Eagle *Aquila heliaca* and the White Stork *Ciconia ciconia*, respectively. These two species – also known as the project target species - are also very susceptible to electrocution due to their large wing span as well as their dependence on the medium-voltage pylons in the IBAs for nesting and/or foraging. Prior to starting with the monitoring fieldwork, the project team in MES designed a model that indicated which parts of the vast medium- and low- voltage powerline network in the two IBAs will be the focus of the monitoring. The parameters used in this model include variety of criteria – from pylon type, pylon design, to important species' nesting sites and foraging range – and they helped identify the powerline hotspots for potentially fatal interaction of the birds with the electric grid. The identified 9 (nine) powerline transects were monitored for 4 (four) breeding seasons (from April to August) during the project implementation. Additional monitoring methodology was the implementation of the carcass removal component, aiming at analyzing the effect of the scavenger species that may interfere with the

identification of the actual electrocution rate. Within these 4 years, we have identified electrocution victims, from both of the projects' target species on the identified monitoring transects, as well as outside of them. The electrocution victim dataset informed us of the precise location for the installation of the bird protectors set aka isolators on the proven and dangerous monitoring transects.

High voltage poles as a roosting site by Lesser Kestrel (*Falco naumanni*) during premigratory period in the South-Eastern Balkans

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Keywords: communal roosting sites, post-breeding dispersal, LIFE for Lesser Kestrel.

The Lesser Kestrel (*Falco naumanni*) is a small diurnal and colonially breeding, long-distance trans-Saharan migrant raptor. The species breeds in South Europe (Iberian, Italian and Balkan peninsulas), North Africa, Turkey, parts of the Middle East, and Central Asia. The species often migrates not directly to the African winter grounds but exhibits a post-breeding/pre-migratory behavior that lasts several weeks where it forms communal roosting sites up to several thousand individuals. Lesser Kestrel pre-migratory areas are of great importance and have been highlighted in several studies in Albania, Greece, Spain, Italy and others. On the Balkan Peninsula, communal roosting sites numbering thousands of individuals during pre-migratory were registered in Albania including central Albanian Adriatic coast, and also in Northwestern Greece. In these cases, birds gather in communal roosting sites, located mainly in settlements congregating exclusively on full-grown poplars (*Populus x canadensis*) and plane trees (*Plantanus orientalis*). In Bulgaria for the period 1994 - 2014, several observations of Lesser kestrel during the period of post-breeding dispersal have been described, and these are sightings of single birds or several hunting and feeding individuals without reports about gathering in communal roosting sites. At the same time in Action plan for the Lesser Kestrel in the European Union, loss of pre-migration roosting sites is described as one of the factors increasing the adult mortality - decreased fitness in critical periods. In the National Action Plan of

Bulgaria, the mortality of roosting sites during migration and wintering is described as one of the threats with high impact. In this regard, after the restoration of breeding population of the species in Bulgaria by Green Balkans NGO, the monitoring of communal roosting sites during the pre-migratory period of this species in Bulgaria and neighboring countries is one of the important conservation activities carried out by Green Balkans. By use of radio, satellite and GPS/GSM transmitters, field research as well as literature review, in the period 2014 - 2021 are found in total over 10 communal roosting sites during pre-migratory period of this species. All of them are located in Southern Bulgaria (n= 9) and Northeastern Greece (n= 3), as the different numbers are registered at each of the sites, with counts from 10 up to 70 individuals. So far, no congregations of Lesser Kestrel have been reported in these areas. In most cases roosting sites are located at high voltage poles in Bulgaria, while in Greece at high antennas, fences and light poles of a gas distribution station, and in only one case on plane trees (*Plantanus sp.*). With the exception of plane trees, similar structures used by Lesser Kestrel for communal roosting sites have not been reported so far on the Balkan Peninsula. Some of the roosting sites are located nearby (not more than a few kilometers) two of the known colonies of the species in Bulgaria, as there are registered mainly birds from nearby colonies. In the other registered pre-migratory congregations of Lesser Kestrel, the origin of the birds has not been established. In 2021 a peak in the newly-discovered roosting sites have been observed and at least four new similar locations in Bulgaria have been discovered, probably due to an increase in the breeding numbers of the species at national level described by project LIFE for Lesser Kestrel, LIFE19 NAT/BG/001

Bird fatality due to per lines collision in Egypt; which variables make the difference?

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Keywords: collision, bird mortality, monitoring, power lines

Electric transmission and distribution grids are expanding rapidly worldwide, with significant negative impacts on biodiversity and, in particular, on birds. The electric power distribution network in Egypt as in other nations is the backbone of economic development. The total overhead power transmission network in Egypt is estimated at about 50,000 km, including a low and medium distribution network of about 25,000 km.

There is almost no available data on the size, scale and intensity of avian mortality due to power lines interaction in North Africa. We were able to conduct an intensive power lines fatality survey on both sides of the Gulf of Suez to identify the riskiest power lines segments on bird migration. Over 320 km were surveyed on both sides of the gulf. Surveys took place in both spring and autumn seasons, from 2019 till 2021.

In this paper, we are examining the quantitative and qualitative impact of different variables on bird mortality rate such as; season, distance to coastline and type of power line design.

Experiences, knowledge and future steps in regards to electrocutation mitigation on middle voltage powerlines in Slovenia

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Keywords: electrocutation, mitigation, middle voltage powerline, *Bubo Bubo*, Eurasian Eagle Owl, GPS tracking

Electrocutation is a well-known cause of death for many raptors, and it's recognized as a major threat for the Eurasian Eagle owl (*Bubo bubo*) in Slovenia where it is an endangered species. Its population ranges between 100 – 150 pairs. Species range is spread almost across the country, but the majority of its population nests in the west and southwest part of the country. The most densely populated area is along the Karst Edge, where some high abundances with 3 pairs have been found nesting in an area smaller than 10 km². It's well known that the Eagle Owl hunts in the open landscape, where it perches in an ambush on elevated spots with a good overview over its hunting grounds. As the transmission lines pass through the open landscape, the powerline poles are very often used as perching spots by individuals of this species. The latest research has revealed that in Slovenia, the electrocutation of the Eagle Owl was overlooked and is more common than we first thought. Over 50 cases have been documented in recent years. A recent cohesion project ZaKras, aimed to improve the conservation status of the Eagle Owl on SPA Kras. Over the duration of two years, 1.254 poles of middle voltage power lines were isolated within SPA Kras. The cost together with the work was 730.00 EUR. As it was not possible to isolate the entire area, the project prioritized nesting areas, which are vital for the population and conservation of this species. In parallel with isolation, a GPS tracking of 12 individuals Eagle Owls was ongoing. Overall, the experiences and knowledge gained from the project were vast. Using telemetry, we recorded 4 deaths due to electrocutation, that occurred in a period over a year and a half. Based on the telemetry of 12 individuals, a priority model for mitigation will be set for the whole country. Experiences with the proposed on-site mitigation measure – isolation of middle voltage powerline – were positive. Initially, there were existing concerns about the limitations of isolating caps, due to strong regional bora winds. After two trial seasons, the damage to isolation due to winds is minimal and the mitigation measure proved to be a successful conservation step for the species. The project itself also had some limitations. While priority nesting areas have been covered within SPA, a problem of marginal areas still remains, as the protected

area does not cover all hunting grounds of the nesting pairs. The proposed mitigation has its disadvantages, as it can only be installed on supporting poles. When dealing with strain poles, with supporting tension wires, the insulation cap has to be used in a combination with an isolation wire. The project in itself did not target the most problematic electrocutation spots, as the usage of insulation caps is not possible on the most hazardous poles – the terminal poles and tower stations. Thus, concurrently, with conservation in the SPA Kras, an initiative to propose mandatory guidelines for grid operators has been in motion.

The CMS Energy Task Force and relevance for the Adriatic Flyway

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Keywords: powerlines, energy, renewables, CMS, flyway

The Adriatic Flyway is a vital migratory corridor that runs along the east coast of the Adriatic Sea and connects the eastern half of Europe and North and Sub-Saharan Africa. It is used for several iconic species such as the Eurasian Spoonbill, the Common Crane or the Sedge warbler. The migratory birds using this flyway face numerous threats, such as the collision and electrocution at power lines.

Within a very complex political scenario, with energy consumption levels raising after the COVID-19 pandemic and with several national and international strategies focusing on reducing energy-dependency, the EU and non-EU countries of the Adriatic flyway will certainly increase their renewable energy targets through an uptake in the use and deployment hydropower, wind and solar infrastructures. As an example, the Western Balkans energy demand is projected to increase by 70% over the coming 20 years. This means an increase of energy transmission systems, either through the renovation of existing powerlines or through new national and transnational networks. On the other hand, the Balkan and Adriatic regions have high renewable energy potential, but current data shows that less than 1% of their total energy share comes from renewable sources.

Improving livelihoods and achieving the UN Sustainable Development Goals and global Climate Targets such as those of the Paris Agreement, means countries in the Adriatic Flyway will have to ensure energy production and transmission maintains the biodiversity values and the ecosystem services provided by migratory species. Many soaring bird species, and others such as those traditionally present in wetlands and farmland habitats are exposed to power line collision and electrocution. The deployment of sensitivity mapping and the promotion of retrofitting for dangerous infrastructures becomes then a priority.

The Convention on Migratory Species is a multilateral environmental agreement (MEA) of the United Nations and the only global treaty focusing on the conservation of migratory species and their habitats. The CMS Energy Task Force is a multi-stakeholder platform working towards reconciling renewable energy developments with the conservation of migratory species and was established in 2015 in accordance with Resolution 11.27 (Rev.

COP13) Renewable Energy and Migratory Species to support the implementation of these resolutions and the use of relevant guidelines.

Through the CMS ETF, steps are being taken to ensure that energy production and distribution does not harm migratory species, this is being done in various ways:

- Promoting and developing guidance for the sustainable deployment or retrofitting of renewable energy technologies and powerlines
- Providing guidance on Strategic Environmental Impact Assessment and related topics
- Supporting research on specific issues such as sensitivity maps and the use of tracking technologies to identify electrocutation and/or collision bird hotspots

Several examples of the work carried out to date do apply to the Adriatic flyway, but important data gaps remain in this region.

LIFE DANUBE FREE SKY –**Transnational conservation of birds along Danube River**

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Keywords: Danube, electric power line, birds, flyway

The Danube is a hub of biodiversity and an essential lifeline of Europe. It is a flyway for bird migration of European importance. Due to the large quantity of birds on migration and the big ratio of bird species with high risk of collision, it is considered as a hot-spot regarding the conflict of bird conservation and mortality at electric power lines. DANUBE FREE SKY campaign was born in the former DANUBEParksCONNECTED project implemented by the DANUBEPARKS Network.

The risk of power lines for birds is still an underestimated reason of mortality in certain countries or areas. Its significant and serious impact on populations of endangered species is unknown and underrated even by authorities worldwide. The LIFE Danube Free Sky project represents a unique example of wide transnational cooperation.

Project objectives are: to contribute to the aim of the EU Biodiversity Strategy to halt the loss of biodiversity and ecosystem services along the Danube River; to reduce and prevent direct and indirect bird mortality caused by electrocution and collisions with the power lines within 23 project SPAs and 9 IBAs in 7 countries; to increase the population of the 12 target species, to establish safer migration routes and habitats along the Danube River; to start and strengthen the cooperation between the key stakeholders and increase the efficiency of adopted measures on a transnational level.

More than 245 km of diverters will be installed to prevent the collision and more than 3200 poles will be modified to prevent the electrocution. Project partnership is consisted of 3 administrations of protected areas, 3 NGOs, 1 railway and 8 electro-companies.

Results of monitoring of bird electrocution on power lines in Livanjsko polje in 2021-2022

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Keywords: electrocution, mortality, monitoring, karst fields, Livanjsko polje, Corvidae

Electrocution is considered a significant endangering factor for bird species that are bigger than Common starling (*Sturnus vulgaris*), especially for predators and storks. It is estimated that in some European countries, such as Slovakia and Hungary, 10-30,000 birds die each year as a result of electric shock. The first results of bird mortality on power lines in Bosnia and Herzegovina were obtained in Kupreško polje in September 2018. Opportunistic data on electrocution were further collected during the spring and autumn of 2019 in Kupreško polje and several surrounding karst fields.

However, the first methodologically prepared monitoring of electrocution in Bosnia and Herzegovina was realized in Livanjsko polje in the period March 2021- February 2022. Five transects with a total length of 4.5 km and with the total of 70 electric poles were defined, and visited once a month. Transects are defined in different parts of the polje and include different types of electric poles to obtain the most representative sample. During the one-year monitoring in Livanjsko polje, a total of 39 electrocuted bird individuals were registered but 22 individuals could not be identified to species level due to often wild fires and corpse predation. The most common victims of electrocution were species from the Corvidae family. The results of monitoring of electrocution in Livanjsko polje were compared with opportunistic results from Kupreško and Glamočko polje, on the basis of which a computer model was developed which aims to identify the most dangerous areas for birds and the most dangerous types of pillars. The obtained results indicate that individuals that use electric poles set in open grassland habitats near larger water areas are the most endangered.

Good examples of electrical network security for Lesser Kestrel (*Falco naumanni*) in SPA Sakar (BG002021)

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Keywords: Lesser Kestrel, *Falco naumanni*, electrical network, SPA Sakar

The unsafe overhead electrical power grid is a considerable threat to different bird species. The main reasons for the incidents, in which birds fall victims to the power grid are: electrocution and collision with power lines. Poor meteorological conditions – low visibility, snowing, fog, etc. – increase the chance of collision since power lines become harder to be detected by birds. These negative factors affect, not only local population of birds, but also migrating individuals. The risk is particularly higher with migrating species that even if they live in an area with safe grid, during the migration or wintering may become victims of dangerous power grids in other countries or even continents. The biggest danger is from electrocution – in these cases the birds die as a result of contact with the power line, and the passing of electrical current through the bird and the power line by the generated electric arc. Collision with power lines – in this type of threats the cause of death is direct collision of birds with power lines. In such cases, the bird may survive after the collision, but suffering fractures of the limbs or body leading to lethal end at a later stage.

After has being recovered Lesser Kestrel (*Falco naumanni*, Fleischer 1818) as breeder in SPA Sakar BG 002021 Bulgaria, one of the aims at mitigating the threat of electrocution, especially at the sites where the Lesser Kestrel colonies are occurred. For the implementing of that the most dangerous types of pylons were identified according to the number and species of dead birds found along the grid lines. Of the operational over ground power grid lines in Bulgaria, according to the electrical voltage, the most dangerous and life threatening for the birds are the elements of the mid voltage power supply grid (20 kV) that are the main cause for death of electrocution. There are several types of electric poles in use in Bulgaria, according to the configuration of the attached power lines.

In the field research of the dangerous types of pylons, have been identified on-site isolation of the electricity pylons within a range of 4,5 km of the Lesser Kestrel colony as

well as other potentially suitable sites. The reason to select such a range is the fact that the average maximum foraging range away from the colony of Lesser Kestrels.

According to the way of safeguarding the elements of the electrical grid several different devices are used: "Rigid bird protective cover", perch guards and bird discouragers and safeguarding by installation of perches. Green Balkans together with the electricity distribution company on the territory of SPA Sakar were isolated 109 pylons of electrical network. Five of them were isolated with the perch guards and bird discouragers and two with perches. The other 102 were isolated with insulators of the type "Rigid bird protective cover".

The isolation of dangerous pylons of electrical network ensured safe conditions not only for the Lesser Kestrels, but also for other species as the Imperial Eagle (*Aquila heliaca*), Storks (*Ciconia spec.*), and other birds, that frequent the power line elements as landing sites, rest spots, or even for nesting.

Facilitating EIA guidelines for powerlines in Croatia: The Why and the How

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Keywords: powerlines, EIA guidelines, impact assessment, stakeholder process

Systematic and rigorous assessment of the impact of linear infrastructure such as medium- and high-voltage powerlines on birds remains a challenging task for nature conservation experts, because even though individual collision and electrocution events are rare, they can add up to a significant and dangerous population-level impact over the large scale of such infrastructure projects. An important tool for bird conservation experts and consultants are guidelines which provide a template for impact assessment, to ensure the use of pragmatic good practices. Towards this end, Biom Association facilitated a stakeholder process with bird conservation experts to produce the first dedicated guidance document for assessing the impact of powerlines on birds in Croatia. The process included two targeted stakeholder workshops and online written consultations and the main output was a draft guidelines document. In this presentation, we aim to present the structure of the guidelines, as well as the rationale, challenges faced, and lessons learned during the stakeholder process.

Wildlife Poisoning in Albania

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Keywords: poisoning, poison-baits, wildlife, environmental crime, National Anti-Poisoning Working Group, National Anti-Poisoning Road Map, Albania

Unlike other countries in the region, where poisoning is well-documented, Albania lacks official data regarding this severe phenomenon. Nevertheless, various indications from the past as well as recent studies have shown that the use of poison baits against wildlife is widely known and spread throughout the country, manifested in various forms over the years. Before 1990, poisoning was controlled and carried out by institutions responsible for wildlife management and livestock breeding. After the 1990, with the dissolution of the one-party system, the controlled poisoning was officially banned and replaced by uncontrolled and illegal poisoning, undertaken by various individuals to resolve conflicts with wild animals.

For almost 30 years (1990-2019), the Albanian legislation did not explicitly state poisoning as an environmental crime. This was achieved only in 2019, when the amendment of the law for the protection of wild fauna enabled the inclusion of wildlife poisoning as an administrative violation. This amendment was proposed by AOS in 2018 and it was followed by a series of actions aimed at the active involvement of decision-making and law enforcement institutions, the creation and adoption of appropriate anti-poisoning policies, and the increase of efficiency in the management of poisoning incidents, i.e., the establishment of a National Anti-Poisoning Working Group, the drafting and adoption of a National Anti-Poisoning Road Map, and the training of the relevant law enforcement authorities.

The long absence of a law that defined wildlife poisoning as a crime has led to the lack of investigation and prosecution of poisoning incidents for the last 30 years. Therefore, today we don't have official and historical data on poisoning, what makes it difficult for us to understand the intensity of the use of poison baits, as well as its real impact on wildlife. Nevertheless, recent studies have shed some light on the prevalence and the driving factors behind the illegal use of poison baits. Over 200 people, including shepherds, farmers, and inhabitants of rural areas have been interviewed all over Albania since 2019, from which circa 14% of the interviewees confirm the use of the poison baits, whilst 20% are aware of the practice but say they don't use it for the fear of poisoning their own dogs.

The main driving factors behind the use of poison baits are the human-wildlife conflicts, the increased presence of medium-sized carnivores (Red fox *Vulpes vulpes*, Golden jackal *Canis aureus*) in rural and urban areas, personal conflicts, and the absence of compensatory measures from the government for the damages caused by wild animals in livestock and agricultural crops.

Despite the significant progress in these last years, there is still a need for further improvement of the relevant legislation, implementation of adequate preventive measures, strengthening of institutional capacities, specialization of a dedicated team on wildlife poisoning issues, regular inspections of the territory, investigation and prosecution of poisoning incidents, as well as a more insightful knowledge of the poisoning problem. Nevertheless, Albania is making good progress in creating the necessary conditions to properly address the poisoning issue in the near future.

Impact of wind farms on the Adriatic Flyway in Bosnia and Herzegovina

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Keywords: wind farms, Adriatic flyway, NATURA 2000

One of the potentials in Bosnia and Herzegovina is investment in renewable energy sources (sun, water, wind, biomass), and the energy crisis has further accelerated investment in them. Favorable climatic conditions in BIH, especially Herzegovina, have encouraged investors to invest in wind farms, which number up to 34 wind farms. In 2019, the State Electricity Regulatory Commission (SERC/DERK) approved the connection to the transmission network of a maximum of 350 MW of installed capacity from wind farms, as allowed by the existing transmission line network. The two entities agreed that 230MW of that would belong to the FBiH and 120MW to the RS.

In the area of Western Herzegovina, the construction of 9 wind farms is planned, starting from Livno - Bosansko Grahovo, Tomislavgrad, Posušje, and two more wind farms in the area of Podveležje and Nevesinje. Taking into account the appearance of these wind farms and their surface, an air barrier is identified for birds that use this migratory route Adriatic flyway as a regular route during migration. The prepared Environmental Impact Studies and monitoring of mortality at the built wind farms are made by order of investors, without respecting the methodology of monitoring the presence and mortality of birds, and the survival of certain species of birds that use this migratory route is questioned. The cumulative effect on birds using this migratory route, which includes built and planned wind farms, is extremely worrying for the large number of endangered bird species on the NATURA 2000 list and the BIH Red List.

Wildlife poisoning - conservation and policy work in Croatia

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Keywords: wildlife, poisoning, public awareness

Throughout history poisoning has been accepted and even encouraged by the authorities and society. This was the simplest way to deal with unwanted wildlife species that were considered pests. Because of scientific findings, accompanied by changes in legislation, poisoning of wild animals is now prohibited in the territory of the Republic of Croatia. Today it is considered illegal and dangerous and it is necessary to react to the change of consciousness. In order to raise public awareness, the Biom Association participated in several activities at the national level

Lead poisoning in birds in Europe

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Keywords: lead, poisoning, raptors, ammunition, hunting

The use of lead (Pb) has a long history in human society. Following the ban on lead in paint, petrol and electrical equipment, lead continues to be used in ammunition. Lead-based hunting ammunition poses a significant risk to a wide range of wildlife, with birds more sensitive to lead exposure than mammals. It is relevant to distinguish between lead shot from shotguns and bullet shells from rifles. Waterfowl readily ingest the small lead shot pellets. They either ingest them as stomach stones or mistake them for seeds. The resulting lead poisoning has long been found in many species of ducks, swans and, more recently, also in wading birds.

The bullets from rifles fragment on their way through a shot game body, leaving behind a cloud of amorphous lead particles. When the hunter cuts open his shot game, he removes not only the digestive tract but also the lungs and heart containing the lead fragments. The viscera taken out usually remain at the place where the game animal was killed. This important source of protein, ingested by obligate and facultative scavengers in winter, the main hunting season, is the most important source of lead poisoning in birds of prey. Depending on the prevailing local hunting style, lead from shot guns can be more relevant than from rifles when water bird hunting dominates in wetlands and lakes. Game birds (geese, ducks, pigeons, pheasants, partridges, etc.) shot with lead shot pellets but not killed may also carry multiple lead pellets in their tissues and pose a risk of lead poisoning for birds of prey¹.

For nearly all ammunition types and calibre lead-free alternative ammunition is available and at least as good as the old conventional lead-based ammunition. To reduce environmental pollution, lead accumulation and poisoning in wildlife and humans, only lead-free ammunition should be allowed in hunting. This applies especially for areas with high concentration of wintering birds, stop-over sites during migration and SPAs, nature reserves and national parks. To facilitate the only use of lead-free ammunition for hunting, all relevant stakeholders need to be included in the process. The scientific evidence of lead poisoning from hunting ammunition is overwhelming. Nevertheless, there is often a lack of political will to put the scientific knowledge into practice. Raising awareness and educating the public are important tools for driving change.

¹ Krone O (2018) Lead poisoning in birds of prey. In: Sarasola JH, Grande, JM and JJ Negro (eds.) *Birds of prey: Biology and Conservation in the XXI century*. Springer Internt. Publishing, pp 251-272. ISBN 978-3-319-73744-7, doi.org/10.1007/978-3-319-73745-4

Lead ammunition poisoning: A One Health issue with a simple solution

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Lead ammunition poisoning is a global One Health issue that causes multiple negative health impacts, affecting wildlife, domestic animals and people. Lead ammunition contaminates soils and waterways - over 20,000 tonnes of lead gunshot pellets are irretrievably released into the European environment every year, creating an ever-increasing toxic legacy. Waterbirds become poisoned when they ingest lead shot directly, mistaking them for food or grit ordinarily selected to aid digestion, while predators and scavengers are exposed to ammunition fragments in the flesh of hunted animals. One million waterbirds alone die every year in Europe and lead ammunition poisoning has been found to suppress multiple bird of prey populations in Europe. For people eating game meat shot with lead, the fragments and particles of lead risks the health of people, particularly children and pregnant women, primarily due to lead's neurotoxic effects. If the multiple negative health impacts associated with lead ammunition are to be mitigated, a transition to the non-toxic alternatives is needed.

Wide recognition of the risks of lead ammunition to our environment and health have led to its partial phasing out and replacement with non-toxic alternatives in various settings. This has been driven by multilateral environmental agreements (such as AEWA, CMS and IUCN), national legislation (with Denmark and the Netherlands completely phasing out the use of lead ammunition many years ago), and most recently, through EU REACH which led to a ban on the use of lead shot in EU wetlands, signed into law in January 2021 (a transition period is currently underway). Without the full restriction of lead ammunition for all shooting and ammunition types, species and people remain at risk from poisoning.

Here, we outline the risks of lead ammunition to health, explain a new EU REACH process in motion which could see the end of lead ammunition use in the EU, and discuss how countries can support this latest initiative, to finally halt this preventable, toxic problem.

Wildlife poisoning in the Balkan peninsula

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Keywords: wildlife poisoning, vultures, poison baits, human-wildlife conflict, illegal practice, Balkan Peninsula

The most common type of wildlife poisoning in the Balkan Peninsula is the intentional placement of poison baits for the purpose of killing wild, feral or in some cases domestic animals. Within the period of 2000-2020 a total of 1046 poisoning and presumable poisoning wildlife poisoning events have been recorded throughout the region.

Avian scavengers in general are a group of species which suffers the most from illegal wildlife poisoning, non-more so than vultures, which are recorded as casualties in every fourth incident. From the year 2000 to 2020 a total of 465 vultures perished in the Balkan Peninsula, including 47 Egyptian Vultures (*Neophron percnopterus*), 17 Cinereous Vultures (*Aegypius monachus*) and one Bearded Vulture (*Gypaetus barbatus*). The Griffon Vulture (*Gyps fulvus*) population inhabiting this region suffered the worst from the illegal practice of wildlife poisoning. These vultures appear as casualties in every fifth poisoning event in the Balkans, and a total of 400 individuals perished within 233 separate poisoning or presumable poisoning incidents. Common Buzzard (*Buteo buteo*) and Red Fox (*Vulpes vulpes*) closely follow, with 392 individuals within 190 separate incidents and 389 individuals within 141 separate incidents respectively.

From the analyzed data we can conclude that an average of 23 vultures are poisoned annually on the Balkan peninsula. If we take into account that approximately only 20 % of poisoning incidents are ever discovered and documented, we can estimate that about

115 vultures are potentially being poisoned annually throughout the Balkans. Such losses exact a heavy toll on the vulture populations of the region. Therefore, it is evident that wildlife poisoning continues to be the single most important threat to vultures in the Balkan Peninsula and current limiting factor for their recovery. This factor has to be taken into account when planning any conservation initiatives regarding vultures, especially re-stocking and reintroduction initiatives.

Although the motives behind most of these incidents remain undiscovered, the majority of better documented and investigated poisoning events indicate that the main driver of poison use in the region are conflicts with mammalian predators (mainly wolves, foxes, jackals, but also bears, martens) and the damages they cause to livestock practices, agricultural production and to game animals in hunting areas.

The most used substances for wildlife poisoning in the Balkan peninsula by far are pesticides from the group of Carbamates, especially *Carbofuran*, which was detected in almost every second poisoning event (46%) for which forensic toxicological analysis was conducted. This banned pesticide was mostly used to prepared poison baits in Serbia, Croatia, followed by Greece and Bulgaria.

The main problems and difficulties in the struggle to reduce scope, frequency of occurrence and subsequently number casualties which this illegal practice causes in the Balkan Peninsula can mainly be attributed to low awareness, insufficient engagement of the relevant governmental authorities, unclear legislation and responsibilities and jurisdictions, and lack of resources and capacities when it comes to dealing with poisoning incidents on several levels: detection (surveying for poison baits or dead animals), sampling, conduction of forensic necropsies and toxicological analysis, and finally judiciary process and legal proceedings of poisoning incidents.

Lead shot in wetlands - research and conservation work

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Keywords: lead ammunition, hunters' attitudes, lead poisoning, wetlands

Usage of lead shot in wetlands has been banned in Croatia since 2013. However, 96,7% of hunters use lead shot only and only 13,3% of hunters are ready to switch to non-lead shot. Also, non-lead shot is not available in shops with hunting equipment due to no demand. Association Biom will present results of research on lead shot pollution in wetlands, survey of Croatian hunters' attitudes towards non-lead shot, market analysis and other research aiming to support phasing out lead in hunting.

Review of the impact of lead poisoning on vulture populations

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Keywords: lead ammunition, poisoning, vulture, Europe

The use of lead ammunition is a recognized threat to biodiversity but also to human health. Progress has been made within the European Union in terms of regulating the use of these ammunition near wetlands, but their use is still authorized in all terrestrial ecosystems.

The Vulture Conservation Foundation has been involved in this fight for a long time because lead poisoning is a significant and still unknown source of mortality for the four species of European vultures. In this presentation, we will review the scientific knowledge on the impact of lead poisoning on the world populations of raptors and vultures in particular. We will develop examples showing that stopping lead ammunition has already been successfully done locally and is therefore feasible on a large scale. Finally, we will look at the long-term benefits of phasing out lead use on vulture populations in Europe, with a focus on enhancing the ecosystem services provided to human societies by healthy vulture populations.

Study on the roots of poison baits use in Egyptian Vulture breeding grounds in southern Albania

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Keywords: Egyptian Vulture, poison baits, Albania

Poisoning is the main cause for population decline or extinctions of avian scavengers around the world. The Balkans are not an exception. In Albania, the presence of the four European vulture species has been confirmed some 60 years ago, whereas nowadays only the Egyptian Vulture is still breeding at the brink of extinction – with ca 5 pairs. In 2016-2017 a field survey has been carried out within the range of Egyptian Vulture territories to understand the roots and quantify the magnitude of wildlife poisoning as a negative factor for vultures in Albania. The survey was based on interviews with local shepherds (n = 53 people with average age of 51 years) by use of semi-structured questionnaires. Our survey covered 25 villages along the Vjosa River watershed within an area of ca 2000 km² in southern Albania. Presence of terrestrial predators (mainly wolf) in the grazing grounds has been confirmed by 100% of the interviewed shepherds. Nearly 40% of them complained having their livestock attacked every year, whereas the rest 60% are suffering losses every 2-3 years. About 50% of the interviewed shepherds take no action to remove the killed livestock and leave it on site, 15% provide the meat of killed livestock to dogs and 5% confessed to poison the carcasses. The risk of poisoning of guarding dogs prevents from poison use in 40% of the interviewees, while 15% did not recognize the poison use as a method to control predators in their areas. Exchange of information between shepherds about poisoning cases was confirmed in ca 50% of interviewees, but in only 7% this happens frequently, while in the rest it occurs rarely. The last figure might suggest that the number of shepherds that poison could be higher than the ones confessed. Our study evidenced that the use of poison baits is a frequent illegal practice in the Egyptian Vulture range in Albania and the main root is the human-carnivore conflict. Law enforcement on one hand, and close work with local stakeholders to reduce the livestock losses by terrestrial predators on other hand, are urgently needed to mitigate this serious threat for Albanian wildlife. This study was supported by the projects LIFE16 NAT/BG/000874 and CEPF 108570.

Poisoning of wild birds in Serbia between 2018 and 2021

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Keywords: wildlife poisoning, citizen science, anti-poisoning unit, bird conservation

Citizen science (CS) is a very effective method for wide scale monitoring of wildlife, including monitoring of wild birds poisoning. A part of wild bird poisoning cases was discovered through the field work conducted by employees, members and volunteers of the Bird Protection and Study Society of Serbia. Nevertheless, majority of cases were reported to BPSSS by citizens. During the 4-year study period a total of 54 poisoning cases, which include wild birds poisoning, were registered. Most poisoning cases were reported in Vojvodina Province 44 cases (81.4 %). A total of 284 bird individuals died due the poisoning during the study period. All together 21 wild bird species were affected by poisoning. The most frequent bird species targeted by poisoning was Marsh Harrier (*Circus aeruginosus*) with 40 individuals (14.1 %). The second numerous species of bird that has died from poisoning is Rook (*Corvus frugilegus*) with 30 individuals (10.5 %). Our research indicates an urgent need for developing specialized anti-poisoning unit in Serbia.

Research in Mostarsko Blato for the proclamation of IBA area

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Keywords: Mostarsko Blato, crane, IBA area

Mostarsko Blato belongs to the karst fields of western Herzegovina, with an area of 33.1 km² (12 km long and an average width of 3 km). It forms a karst depression intersected by rivers and torrents that flood the field in an area of 32.79 km² during the year. Previous research in Mostarsko Blato confirms the presence of 222 bird species. Recent observations from 2000 to 2016 confirmed the presence of 175 bird species (D. Kotrošan). According to published data, the presence of crane *Grus grus* was over 1740 (G. Topić, 2012), 1830 (Vekić, Dalmatin 2018), and 1567 on 14.03.2017 (J. Vekić) in Mostarsko Blato.

In order to put Mostarsko Blato on the list of IBA areas, the Neretva Delta Forum collected data and performed additional monitoring of the presence and number of birds in the period from March 23, 2021. until March 10, 2022. 35 field trips were made and the presence of 153 bird species was confirmed. A large presence of crane was confirmed but also the presence of *Aythya nyroca* (107 individuals), *Aythya ferina* (172 ind.), *Falco vespertinus* (300 ind.), *Vanellus vanellus* (950 ind.), *Platalea leucorodia* (200 ind.) and other species, which indicates the value of Mostarsko Blato as a site of greatest importance for rest and nutrition of birds, especially cranes in the study area.

According to the available data and Criteria B2 and B3, Mostarsko Blato has the conditions for inclusion on the list of IBA areas.

Soaring and water bird migration along the Albanian coastline

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Keywords: Raptors, migration, Butrint, Vjosë-Nartë, Karaburun, Albania

Albania is situated along the Adriatic Flyway and represents one of the most important temporary stopover areas for many migratory birds - particularly for the water birds. This is due to a rich network of coastal and inland wetlands. Nevertheless, very few studies have been carried out so far on the subject of bird migration and particularly when it comes to birds of prey. Based on this, a survey has been carried out during both spring (3-16 April) and autumn (9-19 October) migration periods in 2014 at three Key Biodiversity Areas along the southern coastline of Albania: Vjosë-Nartë; Karaburun Peninsula-Çika Mountain and Butrint National Park. A total of 12 observation points for monitoring birds of prey migration were identified as appropriate for long-term monitoring in the three KBAs. During spring migration, 239 migrating birds of prey representing 13 species and 4037 individuals of waterbirds representing 48 species were counted at the studied KBAs. During both seasons a number of 371 migrating birds of prey representing 15 species and 7666 waterbirds representing 58 species were counted in total. Because of the irregular survey and monitoring schedule, all data collected must be seen as minimum numbers of birds migrating through the region or stopping over in the surveyed sites. Although not explicit, this study confirms the importance of the Albanian Adriatic coast and particularly the wetland complex of Vjosë-Nartë KBA as an important flyway for many wetland birds, and on a lesser extent – for the migratory raptors.

The evolution of Moustached Wabler populations in Europe and the role of the Adriatic Flyway in their conservation.

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Keywords: Moustached Wabler, reed bed, birdringing, stepping stones, Cellular Tracking Technologies

The European population data of the Moustached Wabler *Acrocephalus melanopogon* are highly inconsistent. To clarify population sizes would be a difficult and laborious but important task. The Carpathian Basin population is probably the largest European population, and surveys at the largest breeding sites have shown significant declines in breeding sites. Long-term population trends show declines over almost the whole of Europe. Nevertheless, its conservation status is considered stable. The Adriatic flyway plays a role in the migration of the entire Carpathian Basin population. But our research has also shown that the Adriatic is important for the Black Sea population. Since 2002, 48 expeditions have been organised to the migratory range of the Moustached Wabler in the Balkan Peninsula. Most of these have focused on the Adriatic. The migration route, which is now much narrower, has provided a much more accurate picture of the species' autumn migration period than ever before. In the course of our work, we marked 9669 Moustached Wablers in the Balkan region, mainly along the Adriatic coastline. The 351 captured individual in the Carpathian Basin demonstrate the importance of the Adriatic reedbeds for the conservation of the species. As a Natura 2000 candidate species, the Moustached Wabler may be a potential candidate for promoting the conservation of reedbeds, which are still in decline, and which would be a very important task for all other reed-associated species. To this end, in addition to autumn migration surveys, we have started spring surveys in the region and have begun to establish a new European network of CTT (Cellular Tracking Technologies) in the most important reedbeds along the Adriatic flyway. In addition to targeted ornithological research, we propose to develop a reed map of the entire Adriatic flyway.

Importance of Pag and Nin salinas for birds and need for their formal protection

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Keywords: salina, bird fauna, threats, protection

Out of four Salinas in Croatia, three of them (Pag, Nin and Dinjiška) are situated in the north-western Dalmatia. From 2018-2022 we have carried out regular monthly bird monitoring counts in order to record their importance for waterbirds and human induced threats. Pag salina is the largest salina in Croatia covering 255 ha. During the study period we have recorded 113 bird species. It is important for wintering and migrating waterfowls and breeding of *Himantopus himantopus* (15-17 pairs), *Tringa totanus* (2-3 pairs), *Charadrius alexandrinus* (5-7 pairs), *Tadorna tadorna* (1-2 pairs) and *Sternula albifrons* (2 pairs). Nin salina is covering 55 ha and we have recorded 115 bird species. It is important for breeding of *Sternula albifrons* (8-10 pairs), *Tadorna tadorna* (1-2 pairs), *Himantopus himantopus* (15-20 pairs), *Tringa totanus* (2 pairs) and *Charadrius alexandrinus* (3 pairs) as well as resting and feeding area for *Microcarbo pygmeus*, *Vanellus vanellus*, herons, numerous duck and wader species.

Main threats to Salinas include illegal hunting, uncertainty of salt production due to ownership change (Pag) coupled by dry salt pans throughout the year, and deposition of illegal waste at the salinas edges. Despite all salinas are included into NATURA 2000 network, lack of proper control and management threatens the existing biodiversity and ecological functioning. This can be clearly demonstrated by Dinjiška salina case. Dinjiška salina was the smallest one, covering only 33 ha, and out of production since the start of the project. During October 2018 outer wall of salina was purposely destroyed and nowadays is completely covered by sea water losing its purpose, habitats and biodiversity. Thus, we advocate the formal protection of Pag and Nin Salinas as managed special ornithological reserves.

Conservation and restoration of Pomorie Lake coastal lagoon

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Keywords Pomorie Lake, Natura 2000, Sandwich tern, Black Sea

Pomorie Lake is a coastal hypersaline lagoon on Bulgarian Black Sea coast. Flat relief combined with high number of sunny days and exposure to constant winds create optimal conditions for sea salt production by natural evaporation practiced for centuries. High salinity is important factor for formation of medicinal mud that is widely used by two specialized hospitals and several SPA hotels. Situated along the second most important bird flyway in Europe – Via Pontica – and existence of salt pans are main factors defining importance of the wetland for breeding, migrating and wintering birds. The site is hosting the largest breeding colony of Sandwich terns *Thalasseus sandvicensis* on the Balkan Peninsula with 1000-2500 pairs and significant shares of national populations of Avocet *Recurvirostra avosetta*, Common tern *Sterna hirundo*, Little tern *Strenula albifrons*, Kentish plover *Charadrius alexandrinus* and Black-winged stilt *Himantopus himantopus*. Population of critically endangered in Europe damselfly Dark Spreadwing *Lestes macrostigma* recorded at Pomorie Lake is the most important in Bulgaria and important at European level. Conservation and socio-economic importance of the lagoon is recognized by its designation as Ramsar site, Important Bird Area, national protected area and two Natura 2000 sites – Special Area of Conservation “Pomorie” under EU Habitats Directive 92/43 and Special Protection Area “Pomoriysko ezero” under EU Birds Directive 2009/147. Green Balkans NGO has been running a long-term conservation program for the site spanning more than 25 years. That included restoration of habitat for breeding birds in the form of islets and wooden platforms and rafts; development of management plan; restoration of canal connecting lagoon to the Black Sea; marking of site with info-boards; cleaning of illegally deposited waste; creation of visitor center; environmental education and awareness activities. Results of habitat restoration are best epitomized by increase of Sandwich tern pairs from 6 in 1996 to 2200 in 2020 and observed irregular breeding of Mediterranean gull *Ichthyaetus melanocephalus* and Gull-billed tern *Gelochelidon nilotica* in 2013-2018. Threats to the site are numerous and include tourism developments and habitat loss; disturbance by water sports and visitors; developments of road infrastructure and disrupted hydrological regime. LIFE19 NAT/BG/000804 LIFE FOR POMORIE LAGOON project combines expertise and knowledge of actors from different sectors: non-governmental organizations (Green Balkans NGO and Bulgarian Biodiversity Foundation), private company (Pomorie

saltworks) and scientific institute (Tour du Valat of France). Main objective of the project is to tackle increasing threat for the lagoon by disrupted hydrological regime and increased freshwater inflow with resulting higher water level and decreased salinity. Completed baseline study of birds has shown decreasing numbers of breeding pairs of flagship species for the lagoon like Sandwich tern, Avocet and Black-winged stilt as a result of lower salinity and decreased water level limiting available optimal breeding habitat. Major interventions include restoring hydrological regime and salinity by cleaning more than 5300 m of bypass drainage channels and restoring 6400 m of dykes. Actions for restoring existing wood-silt breeding islet and building new wooden platform are under way.

Bird ringing in the Nature Park Vransko jezero

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Keywords: birds, migration, ringing, ornithological camp, Vransko jezero, warblers

Bird ringing in the Nature Park Vransko jezero has been running for about fifty years. It is carried out continuously since 2001, when the Croatian Ornithological Society in collaboration with the Public Institution Nature Park Vransko jezero established a late summer-autumn ornithological camp. Every year during fall migration, 10–15 amateur and professional ornithologists, authorized by the Institute for Ornithology of the Croatian Academy of Sciences and Arts (CASA), conduct bird ringing in shifts, for approximately 100 days. Since 2017 standard ringing procedure was introduced to improve the ringing methodology and to gather comparable data. The use of recordings and other audio methods of attracting birds is limited ever since, and the data will provide insight into the composition of the bird species and the number of birds that are present and captured without luring. During three years of scientifically standardized bird ringing (2017-2019), a total of 18156 birds were ringed representing 107 species. The most numerous (> 500 ringed individuals) were Reed Warbler (*Acrocephalus scirpaceus*), Barn Swallow (*Hirundo rustica*), Sedge Warbler (*Acrocephalus schoenobaenus*), Great Reed Warbler (*Acrocephalus arundinaceus*), Blue Tit (*Parus caeruleus*), Chiffchaff (*Phylloscopus collybitus*), Moustached Warbler (*Acrocephalus melanopogon*) and Penduline Tit (*Remiz pendulinus*). Two of the ringed species are considered national rarities: the Little Bunting (*Emberiza pusilla*), a new species for the Nature Park Vransko jezero ringed in 2017 and again in 2019, and Booted Warbler (*Hippolais caligata*) ringed in 2018. In addition to the scientific contribution to understanding the migration of birds, the bird ringing camp in the Nature Park Vransko jezero significantly contributes to education of future ringers and all those who want to contribute to the protection of birds.

Importance of Mareza-bird ringing station in Montenegro on the Adriatic Flyway

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Keywords: bird ringing, Mareza, stop over site, bird ringing camp, education, awareness raising

Bird ringing activities were done rarely in Montenegro, until 2014, when the first ornithological station was formed in Mareza, the area located nearby the capital city of Podgorica in Montenegro. It is a complex of freshwater, terrestrial, and karst habitats and includes flooded and occasionally flooded meadows, canals, streams, and springs. It is part of the protected area-nature park Valley of River Zeta.

This site was chosen due to the high diversity of bird species and the presence of intensive migration of passerines. This phenomenon is most possibly caused by its geographical position and mosaic habitats that provide a rich feeding basis for birds. The ringing station is run by the Center for Protection and Research of Birds, which became a member of EURING in 2015 and coordinator of the Montenegrin bird ringing scheme.

Most of the bird ringing activities were done within ringing camps which were organized within the spring and autumn bird migration season from 2018 until 2021. Within the five ringing seasons 3684 birds were ringed, 6152 in total. The biggest number of birds was ringed in 2021, 1731 birds due to the reason that in this year the number of the ringing days was the highest.

The bird ringing activities confirmed the importance of the Mareza area as an important stopover site of the migrating birds on the Adriatic Flyway. It also contributed to the capacity building and training of students and volunteers, which lead to the recruitment of young ornithologists. The ringing activities are also serving as an environmental education program and contributed to raising awareness of Montenegrin citizens about bird migration where over 1000 citizens took part in the activity during the last three years.

Count of migrating soaring birds in Divjakë-Karavasta National Park in Albania

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Keywords: Raptor, migration, autumn, Divjakë-Karavasta, Albania

Divjakë-Karavasta National Park in Albania represents the largest coastal wetland in the country and one of the most important bird areas in the whole Mediterranean Basin, considering that it holds a colony of the Dalmatian Pelican (*Pelecanus crispus*) representing up to 1.5% of the global population of this species. In addition, the area is proved to be an important wintering site for waterfowl species. As regards to passage birds, very few studies have been carried out so far and even less when it comes to the migrating birds of prey. Therefore, in 2018, along 1st to 5th October, migrating raptors have been counted from one single observation point situated in the north-western side of the National Park borders. A total number of 102 individuals on passage from 9 raptor species have been counted. The most common species resulted to be the Marsh Harrier (*Circus aeruginosus*) with 38 individuals, followed by the Common Buzzard (*Buteo buteo*) with 26 individuals, Osprey (*Pandion haliaetus*) with 20 individuals, Eurasian Hobby (*Falco subbuteo*) with 10 individuals and Eurasian Sparrowhawk (*Accipiter nisus*) with four individuals respectively. On the other hand, the less common species resulted to be the Lesser Spotted Eagle (*Clanga pomarina*), Pallid Harrier (*Circus macrourus*), Red-footed Falcon (*Falco vespertinus*) and the Short-toed Snake Eagle (*Circaetus gallicus*), with one individual counted for each species. Considering the condition that the counts were realized from one single point, the results of this study should rather be considered for showing the diversity of raptor species that migrate through and not for the number of individuals.

Population of Whiskered Tern (*Chlydonias hybrida*) in Albania

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Keywords: Whiskered Tern, *Chlydonias hybrida*, Albania

Skadar Lake represents the unique site where Whiskered Tern (*Chlydonia hybrida*) breeds in Albania. In the breeding season of 2020, it was carried out a study on the breeding population of this species in the Albanian part of the lake. This work represents the first dedicated survey for this species in Albania. Three field visits have been carried out in the lake, using a boat. Observation has been carried out through binoculars and the use of a drone. The first visit was carried out in the 3rd week of May, the 2nd visit in the 4th week of June, and the last visit in the 2nd week of July. The breeding population was estimated between 530 to 680 breeding pairs, spread in 5 breeding colonies, where three were situated in the northern part and two in the southern part. The distribution of the colonies is linked to the presence of waterlily habitats where the birds breed. The breeding process appeared to be dynamic. In the first visit 179 nests were counted in one of the breeding locations. On the 2nd visit, this location was completely abandoned, most likely due to disturbance and birds have joined the other colonies. The first hatched chicks were found during the 2nd visit. During the 3rd visit the incubation process was still going on and some pairs were seen in nest-building activity. Regarding the threats, disturbance from fishermen and tourist boats has appeared to be the main. Fishing nets were found spread in the breeding colony.

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