Report on overall impact of the project on reducing bird crime incidents in the Pannonian region between 2017 and 2022

PannonEagle LIFE project, LIFE15/NAT/HU/000902

Action C1.

Photo: Márton Horváth

Contents

1. Introduction

1.1. Background information

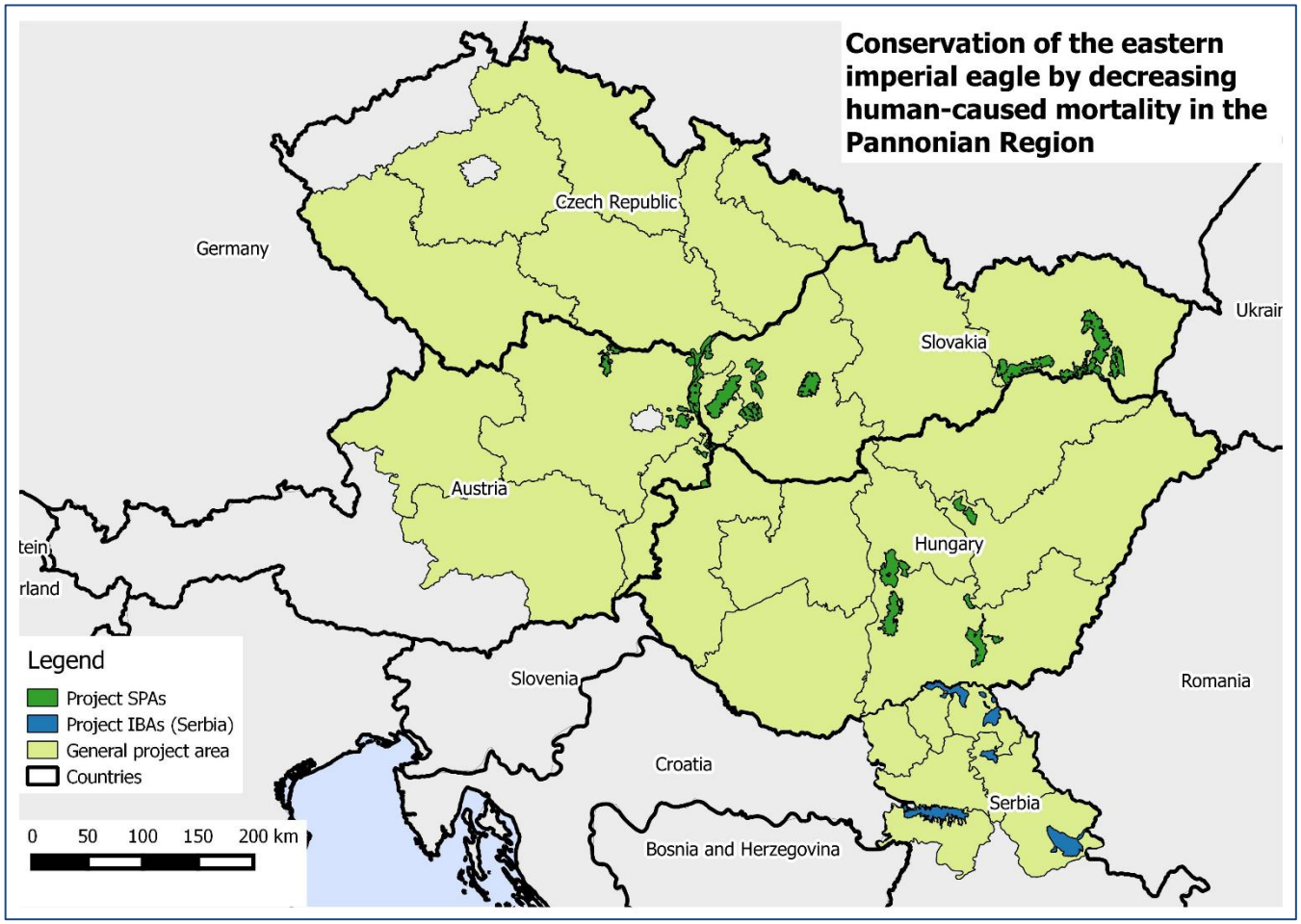
Due to the resiliance and conservation efforts of the past decades, the Pannonian biogeographical region (which includes all of Hungary and parts of Slovakia, Romania, Czech Republic, Croatia, Serbia and Ukraine) the population of **Eastern Imperial Eagle (*Aquila heliaca*)** has increased from 286 to 505 breeding pairs in the timeframe of the PannonEagle project.

Most Imperial Eagles is being killed of direct persecution aiming other predators (shooting, poisoning) and dangerous anthropogenic structures (electrocution, motorways-railways) and natural cause is still minor compared to these. The reduction of semi-natural agricultural lands serving as feeding habitats and old trees and forests patches offering nest sites give reason for serious concern. Predator persecution incidents, especially illegal poisoning is the main threat for the species in the Pannonian region, representing almost 50% of the known mortality causes.

Current report summarizes the overall impact of Action C1, of the PannonEagle LIFE project from the year 2017 to 2022. Due to the anti-poisoning activites the Eastern Imperial Eagle (Aquila heliaca) managed to double its population during the PannonEagle project timeframe. From the start of the project our partners reported altogether 2509 bird crime related findings in connection with 751 cases.

1.2. Project description

To help protecting this magnificent predator species, the European Union LIFE Nature Fund supports the project titled **"Conservation of the Eastern Imperial Eagle by decreasing human-caused mortality in the Pannonian Region" (LIFE15 NAT/HU/000902)**. The project is coordinated by MME/BirdLife Hungary together with 10 other partner organizations from 5 different countries.



Map of the PannonEagle project's site

1.3. OBJECTIVES

In the frame of the PannonEagle LIFE project, we aim to discover and investigate bird crimes committed against eagles with the help of our trained field staff. We also use working dogs which are specialized in poisoning cases, in close cooperation with a network of national park rangers and policemen. Injured birds are treated by veterinarians and released back into the wild if their conditions allow.

The project aims to facilitate a 10% increase of the Eastern Imperial Eagle's Pannonian population, which would result a 9% increase of the EU population, if other populations remain stable.

Further specific objectives in connection with Bird Crime mitigation are:

- to increase the chance of detecting illegal activities and of successful prosecutions;
- to increase understanding of the true, minimal impact of raptors on game species and encourage raptor-friendly game management methods;
- to increase public awareness of the conservation importance of the Eastern Imperial Eagle and of the possible consequences of persecution.

2. Materials and methods

2.1. Methodology and monitoring of Bird Crime incidents

The PannonEagle project partners deal with birdcrime cases historically to a quite different extent. Most partner organizations collect every data on illegal activities that involve any bird species. In the course of the current project all known mortality cases of Eastern Imperial Eagles or Saker Falcons are collected by the beneficiaries with special attention paid on human-caused mortalities. In order to unify the reported cases for the use of this report, we set some criteria to be taken account when deciding whether to account it as a "birdcrime" case. The criteria are the following:

- it should affect protected raptor bird species
- illegal human activity (such as shooting, trapping or poisoning, nest robbing etc.)

Thus, our definition of 'birdcrime' should rather be addressed by 'raptorcrime' – focusing only on birds of prey. We don't deal with accidental injuries or disturbance of birds, such as collisions. However, accidental poisoning is incorporated if it affects birds of prey species, even though the original intention may have been to kill other animals, the act itself is rather deliberate.

There have been other bird crime related cases, which were excluded from our analysis. These can be categorized in 3 groups:

1.) Birdcrime cases not involving raptor species: e.g. blocking nesting holes of European bee-eater (*Merops apiaster*), or shooting at White storks (*Ciconia ciconia*). Even poisoning cases where only mammals or poisoned baits were found were excluded from this report.

2.) Illegal possession of live or stuffed birds

3.) Vague cases reported with uncertain facts that could not be clarified later, whether or not it surely involved illegal activities

These above-mentioned cases were usually not systematically collected by partners, as they fall outside of the project activities in general. In order not to generate biases based on the involvement of partner organizations in these side activities, we excluded these types of cases from our report.

2.2. Data collection: reporting

The project partners operate several different options for reporting a bird crime incident. Some of these have been in operation for a long time – mostly national hotline and e-mail services, but some new tools have been added especially by the project. In the Czech Republic a hotline and a thematic

webpage (http://karbofuran.cz/) have been operated by CSO. In Austria a hotline is operated by WWF Austria, in Hungary hotline and email reporting have been installed during the previous Helicon LIFE project. The RPS in Slovakia and INCVP in Serbia takes record of poisoning incidents revealed by its members, authorities or by the public.

New means of reporting possibilities have been created in the frame of the PannonEagle LIFE project. The project's website contains an online reporting form, operating on 6 languages (English, German, Slovakian, Czech, Serbian and Hungarian). The reporting form is accessible at the following link: http://www.imperialeagle.eu/en/content/reporting-bird-crime. The form is sent to the national PannonEagle project coordinators, depending on the language used (the English version is directed to MME/BirdLife Hungary).

The use of the newly developed mobile app is lower than expected. However, a joint advertisement campaign will begin after all language options are tested and finalized.

In practice, the vast majority of reported cases come from the professional communities: national park rangers, environmental authority officers, professional hunters. Maintaining the good contact with these stakeholders is crucial for the program's success, and therefore special attention is paid on nourishing these networks within the PannonEagle project.

2.3. DATA COLLECTION: FIELD SURVEYS

Several different field survey methods are used by the project parallel, depending on the circumstances.

- Dog units
- Drone
- Car

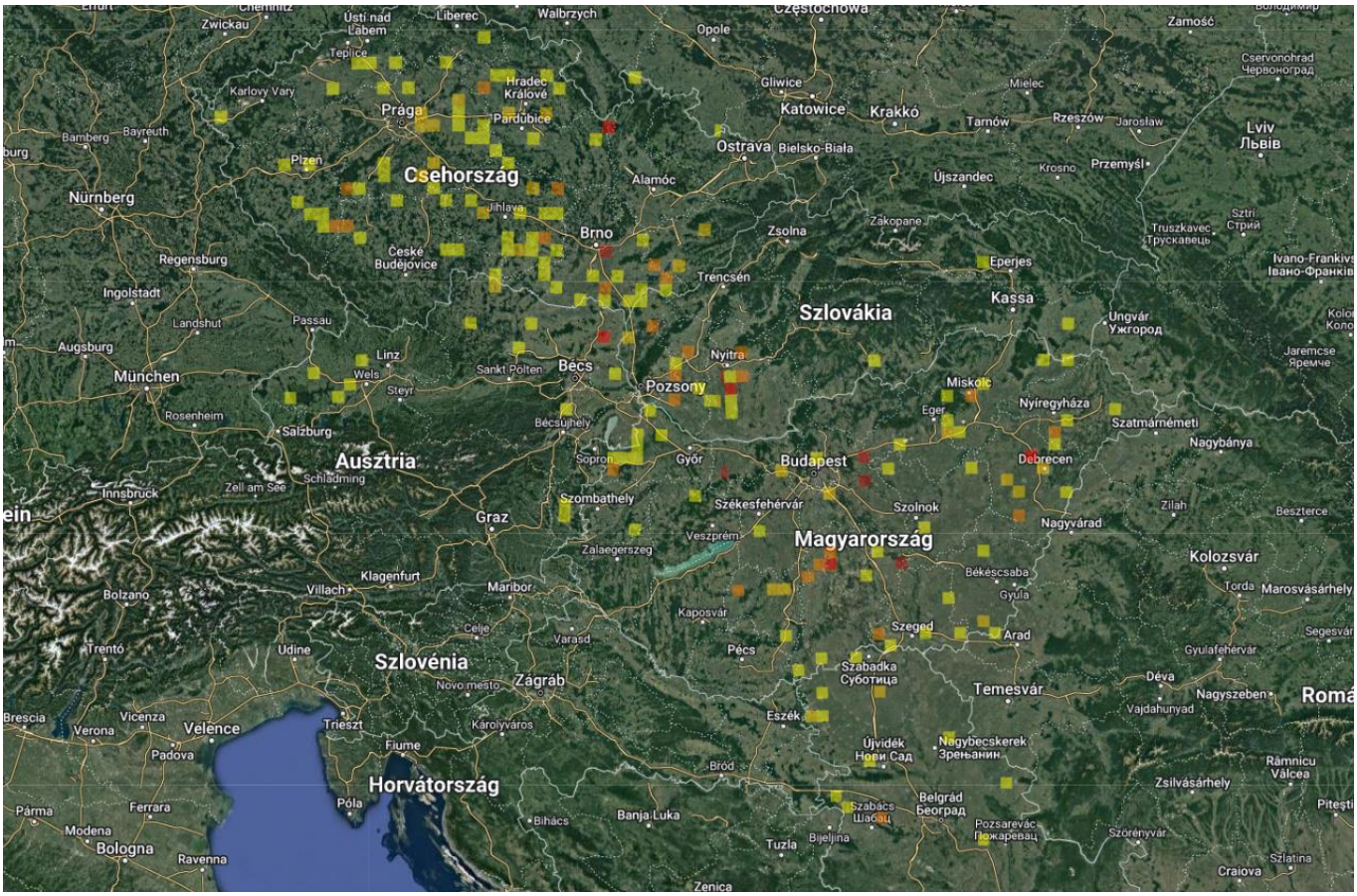
Dog units are best used along linear structures (i.e. ditches, railroads, power lines) or remarkable vegetation switch (like forest edge). Drones can be used to search vast open areas. Cars obviously have a restrain in rough terrain. Actual whether also influences the applicable methods intensely: drones cannot be used in strong wind, while dogs are less tolerant toward a hot summer day nor can small effectively in heavy rain.

The purpose of the online database is to fully register, archive and display information about illegal predator crime primary in the region (including the 5 project countries – geographically Romania should be involved later.)

The structure of the database consists of three parts: Findings – Events - Case. The lowest level is the “Finding” that contains the most important information about the victims found. “Event” is all the connected findings in a particular area. Usually, this comprises the animals/carcasses within 25 meters found on the same day. There may be more findings for one event if the circumstances indicate a clear link among them. Official documents related to the event such as veterinary reports, national park records, police and court documents are also recorded in the database.

The database structure can be easily adopted later to keep record on other type of wildlife mortality, as well.

Data in the database can be displayed in map and chart using different filter settings. The map display works in the 10 x 10 km UTM grid, which can be saved in image format similarly to the diagram. The data stored in the database may be imported in a variety of different file formats.



Distribution of poisoning cases in the Pannonian region between 2017-2022 (https://totem.mme.hu/)

Dog units & search dogs.

Country	Organization	Name of the dog	Name of the dog leader	Breed	Age at purchase	Training
Hungary	MME	Carlo	Gábor Deák	Belgian malinois	8 months	passed exam in 2017
Hungary	MME	Hella	Gábor Deák	German shepherd	8 months	passed exam in 2020
Hungary	KNPD	Samu	Anna Gálos Kis Viktor	German shepherd	8 months	passed exam in 2017
Czech Republic	CSO	Victory	Klára Hlubocká	Cheasepeak Bay retriever	2 months	active working dog since 2019
Czech Republic	CSO	Ibris	Klára Hlubocká	Cheasepeak Bay retriever		active since 2021
Slovakia	RPS in cooperation with Slovakian Police	Xara	Martin Hupka	Medium schnauzer	with the leader from 2 months	exam completed in 12/2018
Slovakia	RPS in cooperation with Slovakian Police	Nero	Pavol Gorny	German Shepherd Dog	8 month	exam completed in 12/2019

Dog units newly employed by the PannonEagle LIFE project

Dog units newly employed by the PannonEagle LIFE project: Carlo(MME), Hella (MME), Samu (KNPD), Sam & Viky(CSO), Nero(Slovak Police), Viky & Irbis (CSO), Xara (Slovak Police)

Coordinating partner	Year	SUM of No. of Field searches	SUM of No. of prooven crime findings	SUM of No.r of Suspected crime findings
CSO_CZ	2017	23	9	4
	2018	48	15	7
	2019	41	12	5
	2020	81	19	14
	2021	89	29	4
	2022	45	11	2
CSO_CZ Total		327	95	36
KNPD_HU	2018	74	0	5
	2019	32	1	4
	2020	86	15	3
	2021	122	118	0
	2022	100	11	47
KNPD_HU Total		414	145	59
MME_HU	2016	46	2	4
	2017	144	15	19
	2018	150	55	1
	2019	132	49	21
	2020	162	97	12
	2021	206	303	6
	2022	161	31	4
MME_HU Total		1001	552	67
RPS_SK	2018	15	0	4
	2019	16	1	3
	2020	37	3	3
	2021	29	32	5
	2022	28	0	0
RPS_SK Total		125	36	15
PannonEagle dog units Total		1867	828	177

Number of searches/findings conducted by PannonEagle dog-units between 2016-2022

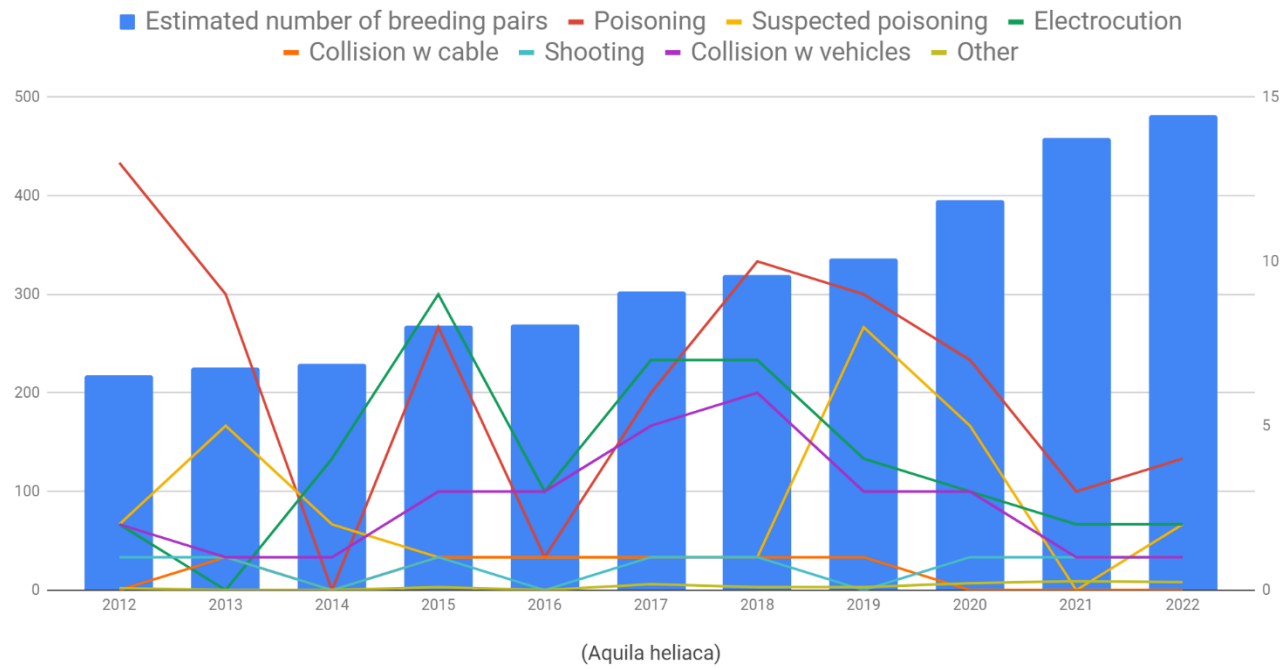
3. Imperial Eagle mortality and Bird Crime cases between 2017-2022

3.1. Eastern imperial eagle (Aquila heliaca) population and mortality

Poisoning is the most significant human-caused mortality factor for Imperial Eagles in the Pannonian Region. From 2017 to 2022 there were 184 eastern imperial eagles reported dead or recovered in the project countries. From these 39 were known to be poisoned, 17 suspected to be poisoned, 25 electrocuted, 3 collided with cable, 5 was shot, 19 with vehicles (car, train) and 5 got electrocuted.

Eastern Imperial Eagle TOTAL	Estimated number of breeding pairs	Mortality causes							
(Aquila heliaca)		Poisoning	Suspected poisoning	Electrocution	Collision w cable	Shooting	Collision w vehicles	Other	Unknown
2022	482	4	2	2	0	1	1	8	9
2021	458	3	0	2	0	1	1	9	9
2020	396	7	5	3	0	1	3	7	4
2019	336	9	7	4	1	3	7	3	9
2018	320	10	1	6	1	1	5	3	3
2017	303	6	2	4	1	1	5	5	6
2017-2022	+76%	39	17	25	3	5	19	36	40
2016	270	2	0	3	1	0	3	0	1
2015	268	8	1	9	1	0	3	2	7
2014	230	0	2	4	0	0	1	0	0
2013	225	14	0	0	1	1	1	0	2
2012	218	17	0	2	0	1	2	2	2
2007-2011	146	41	0	15	2	5	6	10	8

Estimated number of breeding pairs and mortality causes of recovered Imperial eagles in the Pannonian region in years 2007-2022

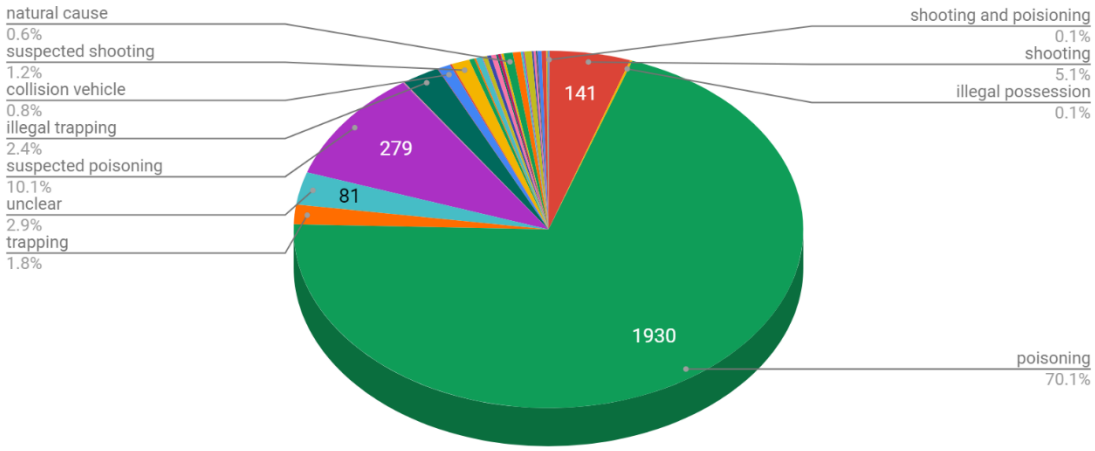


Imperial Eagle breeding pairs and mortality in the Pannonian region 2012-2022

Human induced mortality causes for the eastern imperial eagle were observed to be peaking in 2018, but

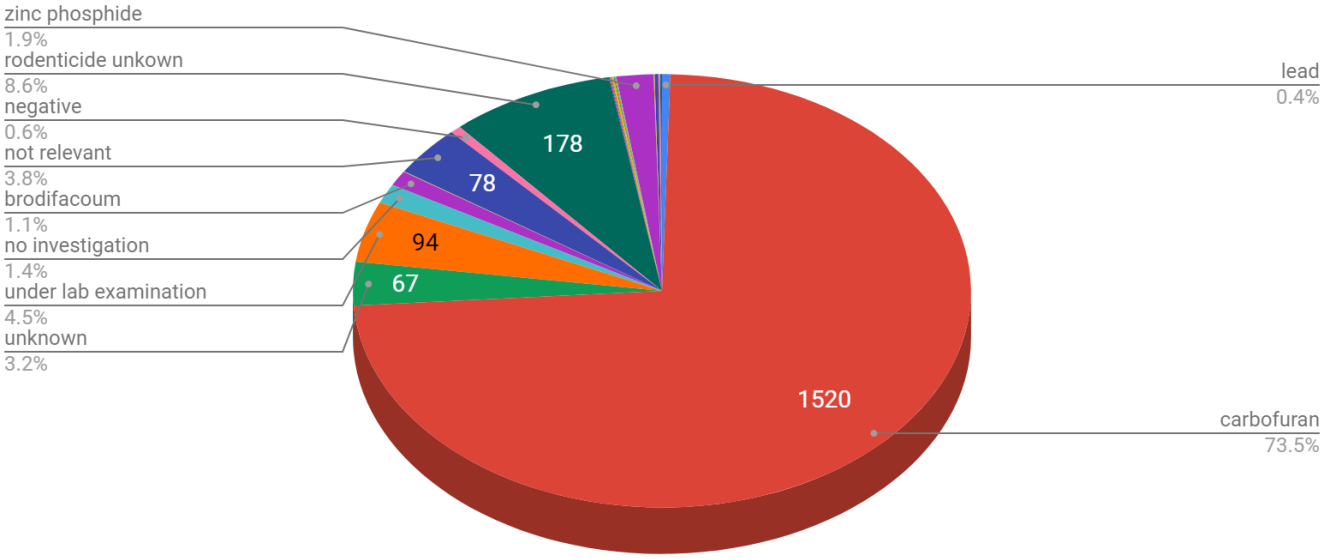
3.2. BirdCrime cases in the scope of the PannonEagle project

Out of the wide variety of human-induced mortalities, the project deals with the illegal activities affecting raptors - as these cases are all potential threats to our species in focus. On the other hand, the laboratory examination could sometimes reveal multiple factors which are called complex cases. For instance, a bird with electrociton could contain pesticide residues or a carbofuran poisoned bird can contain rodenticides too.



Percentage of persecution cases in 2017-2022

Between 01/01/2017 and 31/12/2022 the PannonEagle project partners reported altogether ***2754 findings in relation with 751 cases*** where illegal raptor persecution could be suspected or proved. 70.1 % of the cases are known to be poisoning, either directly or indirectly and another 10.1% can be added as suspected poisoning. The third most recored crime was shooting incidents 5.1 %. In case of poisoning or suspected poisoning samples are taken and sent to a nationally accredited laboratory in each country for analysis. Carbofuran is still the major compound althoug it was banned in the 70s in all european countries, but increase in cases in connection with rodenticides affected such as brodifacoum and zinc phoshide cauesed unneccesary harm to many raptors.



Poisoning findings laboratory results (2016-2022)

3.3. SPECIES AFFECTED

The table shows the number of species (even bait species) that were affected by persecution in the Pannonian region between 2017 and 2022. Common buzzard (Buteo buteo) and marsh harrier (Circus aeruginosus) are the most common victims of persecution incidents. European hare (Lepus europaeus) and european pond turtle (Emys orbicularis) are mainly connected to mass-poisoning incindents which means many individals recorded in only few cases. White-tailed eagle (Haliaeetus albicilla) is the most common eagle species followed by eastern imperial eagle (Aquila heliaca). Poisonous baits are also found in large numbers: meat baits, chichen eggs, chicken, hare.

common buzzard (Buteo buteo)	505
marsh harrier (Circus aeruginosus)	189
european pond turtle (Emys orbicularis)	160
european hare (Lepus europaeus)	143
meat bait	141
common raven (Corvus corax)	131
fox (Vulpes vulpes)	121
white-tailed eagle (Haliaeetus albicilla)	116
rook (Corvus frugilegus)	84
chicken - egg (bait)	76
red kite (Milvus milvus)	74
imperial eagle (Aquila heliaca)	69
dog (Canis lupus familiaris)	65
magpie (Pica pica)	46
hooded crow (Corvus cornix)	46
stone marten (Martes foina)	43
northern goshawk (Accipiter gentilis)	39
sparrow hawk (Accipiter nisus)	38
unknow (bait)	32
domestic cat (Felis catus)	32
chicken - (bait)	30
common kestrel (Falco tinnunculus)	19
domestic pigeon (Columba livia domestica)	18
jackdaw (Coloeus monedula)	13
hare (bait)	12
common wood pigeon (Columba palumbus)	12
peregrine falcon (Falco peregrinus)	11
saker falcon (Falco cherrug)	11
Montagu's harrier (Circus pygargus)	11
eagle owl (Bubo bubo)	9
badger (Meles meles)	9
pigeon - egg (bait)	9
unknow	8
golden jackal (Canis aureus)	7
pigeon (bait)	7
roe deer (bait)	7
long-eared owl (Asio otus)	6
white stork (Ciconia ciconia)	6
eurasian jay (Garrulus glandarius)	6
otter (Lutra lutra)	5
pheasant (bait)	5
common pheasant (Phasianus colchicus)	5

Findings in relation with wildlife crime incidents 2017-2022

4. Outcomes

4.1. Detected and reported bird crime cases

It is noticeable that out of the several detected cases, only a little portion of them would finally reach the stage of prosecutions. Even though bird crime cases can be very difficult to investigate and prove, in some countries there is also still a moderate understanding of its importance from part of the law enforcement authorities. Even though there is good cooperation with the national police, many cases reported and plentyful evidence is present the most investigations are closed without fine or conviction. Even more difficult with emerging cases where the intention of poisioning is unclear, such as rodenticide poisioning (where legal subtances were used in an irresponsible way).

Current status of the case	Austria	Czechia	Hungary	Serbia	Slovakia	Grand Total
01 - no procedure	61	15	70	14	11	171
02 - active lab analysis	34	2		2		38
03 - negative lab result	65	2	4		1	72
04 - reported to police or state nature conservancy	35	25	28	41	35	164
05 - active police investigation	38	98	22	3	67	227
06 - closed police investigation (no accusation)	25	19	21	2	1	68
07 - police accusation		2			3	5
08 - active court procedure			1			1
09 - no conviction	3					3
10 - fined by authority				1	1	1
11 - convicted by court	1	2	1			5
Grand Total	**278**	**161**	**139**	**55**	**119**	**751**

Outcomes of the bird crime cases in the Pannonian region between 2017 - 2022

4.2. Court trials in connection with PannonEagle dog units

Although successful wildlife crime cases are still really difficult to achieve, PannonEagle dog units contributed some of the “ice-breaking” exemplary cases where the evidence findings provided sufficient background for the police investigators and the prosecutors so they could bring the charges against the criminals.

- August 2020 Austria - carbofuran and destruction of highly protected species - suspended prison sentence and fine
  https://imperialeagle.eu/en/content/white-tailed-eagle-poisoned-sentence-guilt-hunter
- June 2020 - Slovakia - possession of carbofuran - fine
  https://imperialeagle.eu/en/content/slovakian-court-affirms-illegal-home-possession-carbofuran
- 2021 Czech Republic - suspended prison sentence for illegal poisoning
  https://imperialeagle.eu/en/content/appellate-court-confirmed-judgement-bird-poisoner
- 2022 Czech Republic - suspended prison sentence for illegal poisoning

https://imperialeagle.eu/en/content/second-bird-prey-poisoner-was-convicted-czechia

- December 2022 - Hungary - friendly vulture shooting - suspended prison sentence
  https://imperialeagle.eu/en/content/vulture-killing-hunters-were-caught
- January 2023 - Hungary - trapping raptors - fine sentence
  https://imperialeagle.eu/en/content/charges-were-brought-against-hunter-who-trapped-raptors

5. Summary

Current report summarized the overall results of Action C1 (Detect and Investigate Raptor Persecutione) PannonEagle LIFE project. From 2017 to 2022 there were 184 eastern imperial eagles reported dead or recovered in the project countries. From these 39 were known to be poisoned, 17 suspected to be poisoned, 25 electrocuted, 3 collided with cable, 5 was shot, 19 with vehicles (car, train) and 5 got electrocuted. PannonEagle project partners reported 2754 findings in relation with 751 cases where illegal activities were proved or suspected or suspected. The PannonEagle specialized dog units conducted 1867 field searches where they discovered 828 provend and 177 suspected crime findings. In relation with the dog unit's field work six bird crime cases reached the court phase.