



White storks nesting on chimneys in cities and villages are often the subject of disputes in connection with fireworks. Photo Petr Lang

Under the conditions for a different procedure for the protection of birds laid down in § 5b, the Act specifically lists the activities for which a different procedure may be established. *A different procedure may be established in the interests of public health or public safety, in the interests of air safety, in order to prevent serious damage to crops, domestic animals, forests, fisheries and water management, or for the purpose of protection of wild fauna and flora, also for the purposes of research and teaching, of re-population of a certain area by a population of the species or re-introduction of the species in its original range, or for the breeding in human care for these purposes.* Since the Act does not offer the possibility of granting an exemption for cultural events such as fireworks, the use of the authorisation process in the framework of bird protection under § 5a of the ANLP is virtually impossible. The use of the exemption procedure under § 5b of ANLP for generally protected bird species in the event of disturbance, which is significant for the conservation of the population of the species under the Birds Directive, is at the least highly questionable. As a result, if § 5a would be applicable to fireworks, it would never be possible to authorise fireworks.

General protection of plants and animals pursuant to § 5 of ANLP in the case of fireworks is also very limited in its applicability, because it mostly

deals with harmful interventions that could endanger the existence of the species as such or its entire population. The application of this provision can be envisaged in the case of endangering a particular breeding colony of water birds, etc. In general practice, however, the general protection of plants and animals pursuant to § 5 of ANLP does not appear to be a suitable tool for legitimate legal restrictions on fireworks.

A little practical experience from the Czech Republic

The Czech Society for Ornithology (CSO) has been informing on the negative impact of fireworks on birds for years. Ornithologists have practical experience in protecting birds from fireworks, for example on the Vltava River in the centre of Prague. In May 2019, the CSO managed to get the planned fireworks on the Vltava, which was to be part of the Midsummer celebration NAVALIS, cancelled. The ornithologists pointed out the harmfulness of the fireworks to the nesting birds and stressed that there was a risk of the eggs and chicks in the nests cooling off, if their parents left them alone as they escaped from the fireworks. They addressed objections to the Mayor of Prague Zdeněk Hřib and asked him to cancel the planned fireworks. Due to the pressure from the public and the ornithologists, the organisers of the Midsummer Society completely cancelled

the fireworks several hours before the planned event. A great turnaround in the issue of fireworks is the abolition of New Year fireworks in Prague, which should be replaced by videomapping, i.e. light projection on buildings. In August 2018 the Prague councillors decided to do this. The negative effect on animals was given as a reason. Brno’s Liberty Square is also scheduled to be without fireworks on New Year’s Eve 2019/2020 (web2). The use of fireworks, at varying degrees, is restricted by a number of generally binding decrees of municipalities and cities (e.g. České Budějovice, Česká Lípa, Hodonín, Mikulov, Pardubice).

Conclusion

Given the apparent negative impact of fireworks on animals, namely birds, a systematic restriction on firework displays at the national level would be most appropriate. One of the first steps may be, for example, a total ban on fireworks that have an acoustic effect. This may be followed by measures to restrict pyrotechnics and fireworks, e.g. limitation of the time period of sale, definition of a narrow time period of possible usage, or replacement by less intrusive alternatives (e.g. videomapping). We see positive examples in many places in the Czech Republic and abroad, when the issue of fireworks is the subject of discussion and there is a gradual increase in awareness of the negative effects of fireworks and in their restriction. It is becoming apparent that politicians and the public are increasingly aware of the dark side of costly firework displays, which are not so essential for citizens, who could quite easily live without them. This is confirmed by the experience of the Czech Society for Ornithology and ANP CR, to whom more and more people are turning with their concerns over fireworks.

Notes

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<sup>3</sup>Česká společnost ornitologická, Na Bělidle 252/34, 150 00 Smíchov, Praha 5

A list of recommended literature is attached to the web version of the article at [www.casopis.ochranaprirody.cz](http://www.casopis.ochranaprirody.cz)

# Records of Animals Admitted to the National Network of Rescue Stations and What They Can Tell Us

Petr N. Stýblo

The National Network of Rescue Stations project brings, in addition to thousands of saved lives of wild animals and effective information for the education of inhabitants, also interesting statistics. The central register of all animals received not only allows the monitoring of numbers of species and individuals of injured animals and the dates

and locations, but also their fate – reasons why the injury occurred, time when they were admitted, number of days spent at the station, etc. Up to 57 data items can be recorded for each animal received. The long-term uniform methodology of record-keeping also enables the monitoring of these parameters over the years.

Figure 1. Rare species of our fauna also reach the rescue stations. Photo ZS Rozový





Data summary

Overall, the rescue stations received 233,797 animals from the establishment of the National Network in 1998 to the end of 2018. Whereas, in 1998 it was 1,337 individuals, in 2018 already 23,779 individuals (increase of 1,778%) were received. The trend in the number of animals received in individual years is shown in Graph 1.

Since 2007, the National Network has kept a unified register of all animals received. Thanks to this, data on received animals can easily be processed statistically. At the end of 2018, a total of 196,987 individuals were registered in the unified register, including 1,701 reptiles (11 species), 7,301 amphibians (13 species), 114,253 birds (228 species) and 73,732 mammals (74 species). The 15 most frequently received species in the period under review are shown in Table 1. With the exception of the common buzzard, these are all species living in the immediate vicinity of human settlements, whereas the buzzard lives near human transport arteries. The order of the most common species in individual years is virtually unchanged, with the exception of the common pipistrelle and the common noctule. These species are often, but not every year, received in whole, even several-hundred-member colonies, so they are placed in the top ten, but in a very different order from year to year.

Interesting and rare species

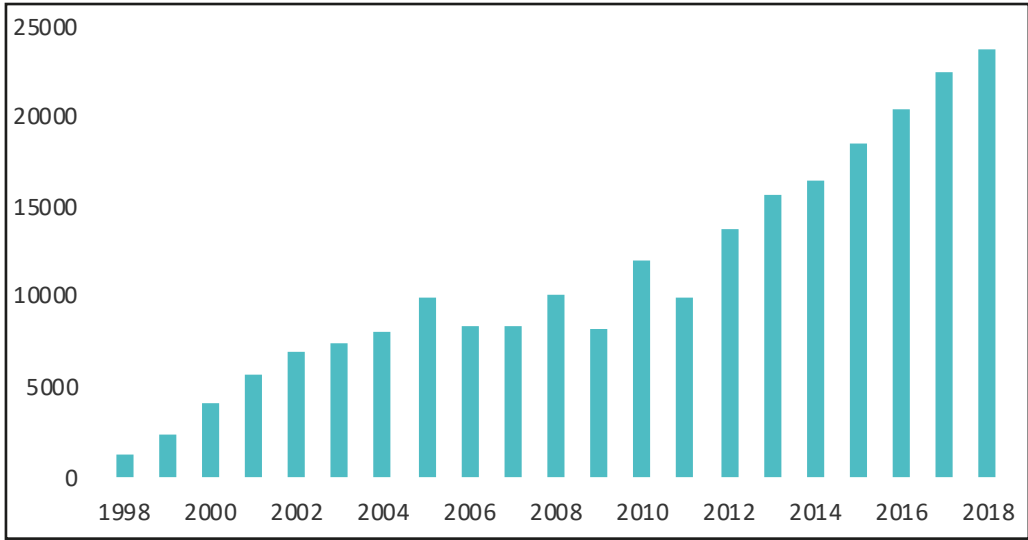
Interestingly, of 18 species only a single individual was in the care of rescue stations in the monitored period 2007–2018:

wheatear, garganey, scarlet rosefinch, pomerine skua, Eurasian curlew, yellow-bellied toad, steppe eagle, greater scaup, red-necked grebe, black-legged kittiwake, lanner falcon, Eurasian water shrew, Alpine shrew, griffon vulture, northern gannet, European grey wolf, common redshank and common greenshank.

In terms of classification of the species into legal categories – Act No. 114/1992 Coll., on Nature and Landscape Protection; No. 449/2001 Coll., on Hunting; No. 100/2004 Coll., ‘CITES’; No. 246/1992 Coll., on the Protection of Animals against Cruelty – rescue stations received the following numbers of animals in 2007–2018, see Table 2.



Figure 2. Reptiles also reach the rescue stations. Photo ZS Bartošovice



Graph 1: National Network of Rescue Stations – numbers of animals received in 1998–2018. Prepared by Petr N. Stýblo

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Western European hedgehog	931	1,186	838	1,171	947	922	1,533	1,517	1,876	1,957	2,320	2,269	17,467
Common pipistrelle bat	715	491	1,089	970	1,523	2,582	1,610	644	1,109	2,368	814	1,341	15,256
Eurasian kestrel	906	1,318	763	1,127	919	1,119	1,168	1,209	1,577	1,582	1,604	1,492	14,784
Noctule bat	137	267	337	727	676	821	1,213	1,137	1,351	861	1,211	1,264	10,002
Blackbird	252	327	251	504	324	500	637	887	1,077	1,172	1,310	1,735	8,976
Swift	368	435	341	662	450	605	924	702	1,018	787	796	893	7,981
Eastern European hedgehog	173	291	383	526	532	418	788	594	543	1,034	898	838	7,018
Buzzard	416	476	401	546	373	525	471	539	646	782	691	643	6,509
Mallard duck	146	146	129	325	207	304	691	431	436	767	971	721	5,274
Mute swan	269	331	181	360	221	422	420	435	447	599	500	531	4,716
Red squirrel	155	201	154	267	258	269	375	298	524	509	581	703	4,294
Brown hare	95	176	119	273	234	271	397	362	499	571	558	630	4,185
House martin	249	246	144	190	235	259	323	412	470	394	489	542	3,953
European roe deer	194	164	135	346	223	211	378	328	353	347	381	400	3,460
Collared dove	92	111	88	164	142	179	259	320	398	493	462	582	3,290

Table 2: National Network of Rescue Stations – numbers of animals in particular legal categories, received in the years 2007–2018. Prepared by Petr N. Stýblo

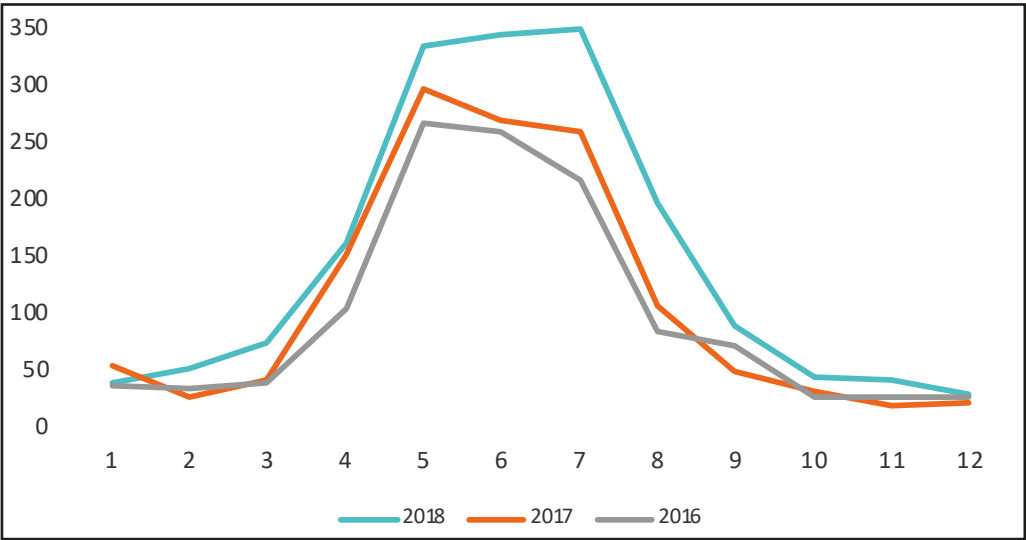
Category of species	Number of animals
Critically endangered	2,379
Severely endangered	42,347
Endangered	38,664
CITES	26,179
Non-huntable game	27,532
Huntable game	23,714
Requiring special care	8,602

What does the data indicate?

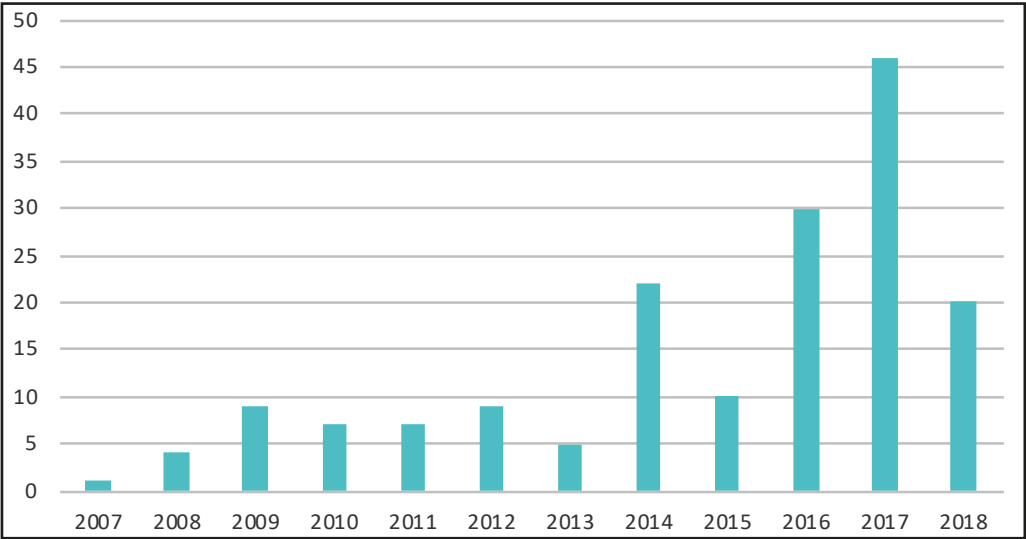
For some of the received species, the long-term statistics of the National Network allow us (with a great deal of caution) to comment on trends in the abundance of their populations in our landscape, their proximity to humans, and the emergence of a new factor that significantly affects their population. For example, Graph 2 shows a shift of maximum admissions of the blackbird in 2018 from the traditional May, when most admissions are of newly-hatched offspring, to July. It can be assumed that this shift was caused by extreme food shortages due to drought in combination with the new USUTU virus, which has primarily decimated the blackbirds since it arrived in Europe.

Using Graph 3, we could document the invasion of the non-native coypu (nutria). In the first half of the period, the average number received by rescue stations reached 6 animals per year. In the second half it was already 26 coypu per year, which is an increase of more than four times. Similarly (a six-fold increase) is also recorded for our native woodpigeon. Its urban population has been expanding significantly in Europe over the last decade, and this ‘migration’ towards people has also been reflected in an increase in admissions at rescue stations. This trend is illustrated in Graph 4.

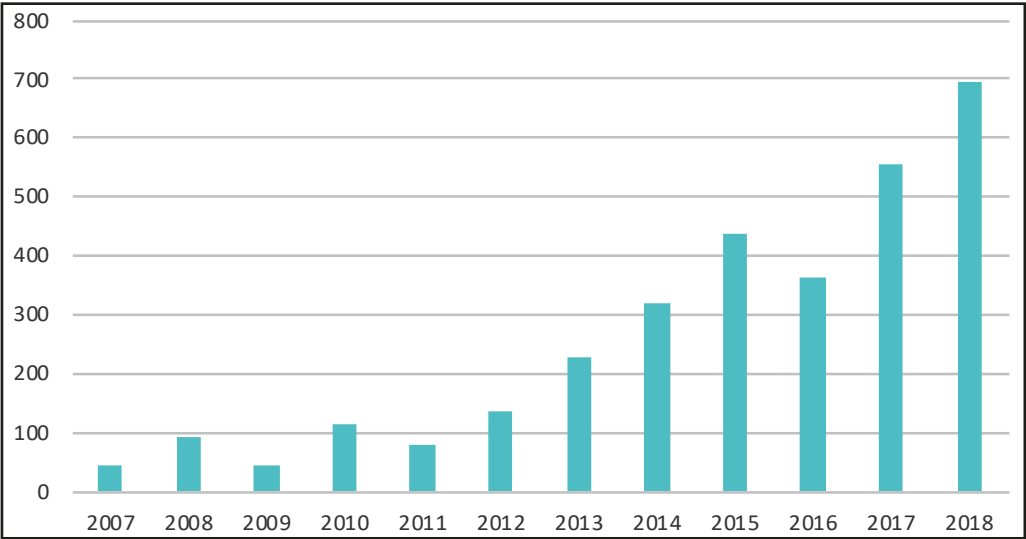
Also, the admissions of the protected species Eurasian otter and European beaver may be indicative of growing populations approaching humans, see Graph 5. However, the above conclusions cannot be adopted solely on the basis of National Network statistics. These can always be taken only as a supplement to the data obtained from the wild. Moreover, it is necessary to compare them with the overall trend of increasing numbers



Graph 2: National Network of Rescue Stations – numbers of admissions of blackbirds in different months in 2016–2018. Prepared by Petr N. Stýblo



Graph 3: National Network of Rescue Stations – admissions of coypu to rescue stations in 2007–2018. Prepared by Petr N. Stýblo



Graph 4: National Network of Rescue Stations – admissions of woodpigeon individuals to rescue stations in 2007–2018. Prepared by Petr N. Stýblo

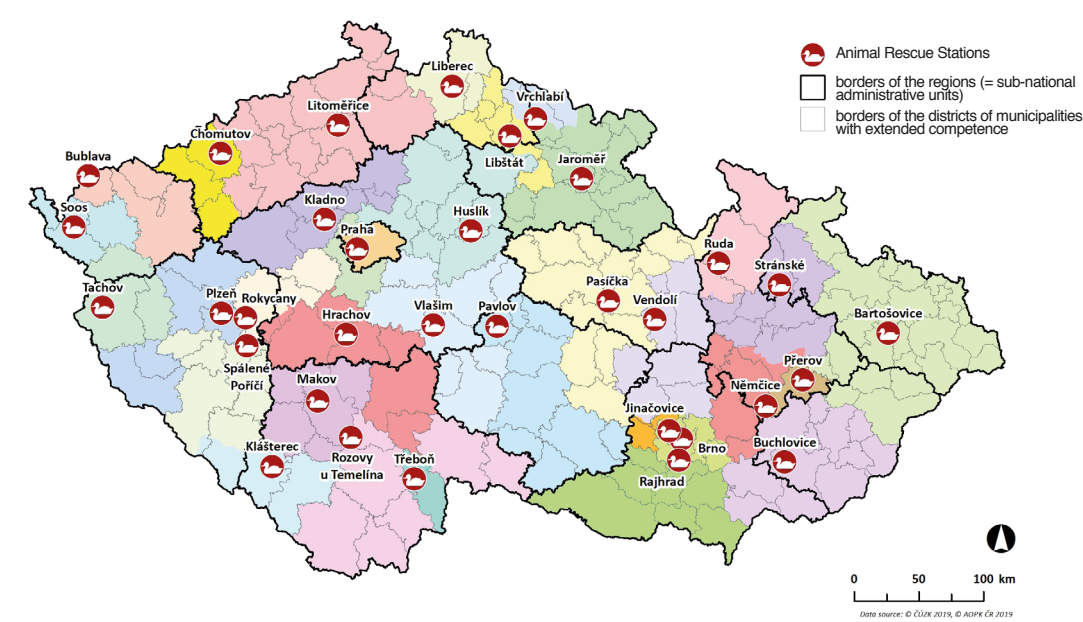


National Network of Rescue Stations

Thanks to voluntary nature conservation bodies, the Czech Republic has one of the most elaborate systems of care for injured or otherwise handicapped wild animals. The National Network of Rescue Stations has been established gradually since 1998, today associating 33 rescue stations covering the whole Czech Republic. Approximately half of these rescue stations are operated by local chapters of the Czech Union for Nature Conservation, the other half by other entities – other non-profit organisations, but also by contributory organisations of municipalities and regions, or by national park administrations. Rescue stations associated in the National Network provide comprehensive care for handicapped animals from admitting an injured animal through its examination, treatment and rehabilitation to, ideally, being released back into the wild. Individuals with a permanent handicap, for which release into the wild is not possible, then often serve the needs of environmental education – demonstrating the consequences of various human activities and appropriate or inappropriate behaviour towards wild animals – which is the other major component of rescue station activity. The Czech Union for Nature Conservation is the coordinator and guarantor of the National Network of Rescue Stations. Summary information on the National Network of Rescue Stations can be found on the website [www.zvirevnouzi.cz](http://www.zvirevnouzi.cz). For quick contact, when the finder does not know how to act or where to call, use the emergency phone line 774 155 155. An application for ‘smart phones’ can also be downloaded. This gives advice on how to act when an injured animal is found, and depending on the location of the finder calls the appropriate rescue station.

of admissions of all animals – by 300% in the given period.

The frequency of admissions of individual species can also be monitored regionally. Table 3 uses the example of the long-eared owl. This statistic shows that the highest numbers of long-eared owls were received in the Central Bohemian Region, the lowest in the Liberec Region. In terms of the number of inhabitants, however, the highest number of long-eared owls was recorded in the Pardubice Region. On the other hand, in terms of the area of the region, the largest numbers of long-eared owls were from Prague, the lowest in



Map 1. National Network of Rescue Stations. Data source [www.zvirevnouzi.cz](http://www.zvirevnouzi.cz). Prepared by Jan Vrba



Figure 3. An important activity of station workers is the protection of species and their habitats in the field. Photo Zdeňka Nezmeškalová

the Vysočina Region. Combining both of these factors, the Pardubice Region is the richest region in terms of long-eared owls received, followed by the Central Bohemian and Olomouc Regions, and the Vysočina Region at the other end of the scale. However, the Central Register of Admissions of the National Network makes it possible to specify this statistic down to the district level.

Moreover, the admissions of individuals of each species can also be seen in terms of time – during the year. Again, using the example of the

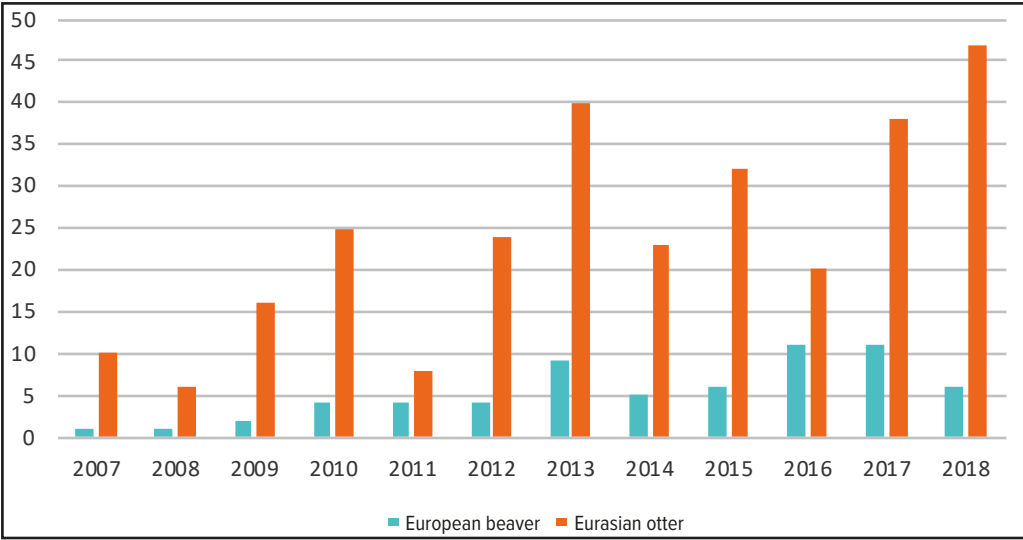
long-eared owl, it can be seen from Table 4 that the maximum of admissions during the year is almost always in the period of May to July, when the long-eared owl raises its young. However, if the winter conditions are extreme, then the peaks of admissions are partially shifted to these months – in the table especially in 2010.

Causes of admissions to rescue stations

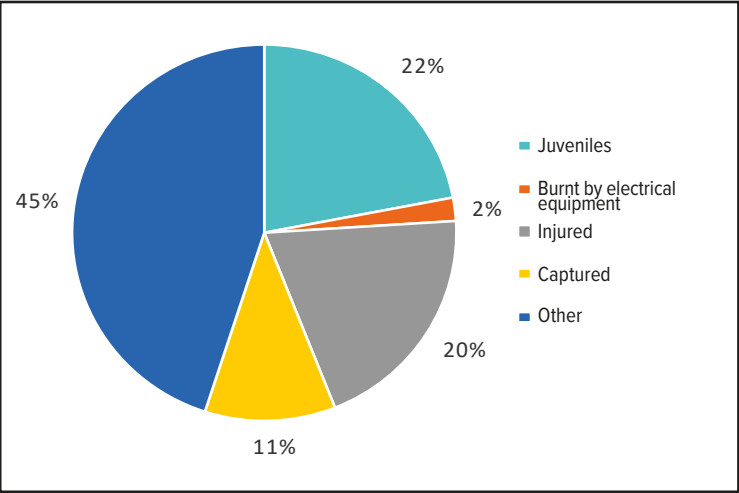
In addition to data on animal admissions, there are also data on the causes of admissions and



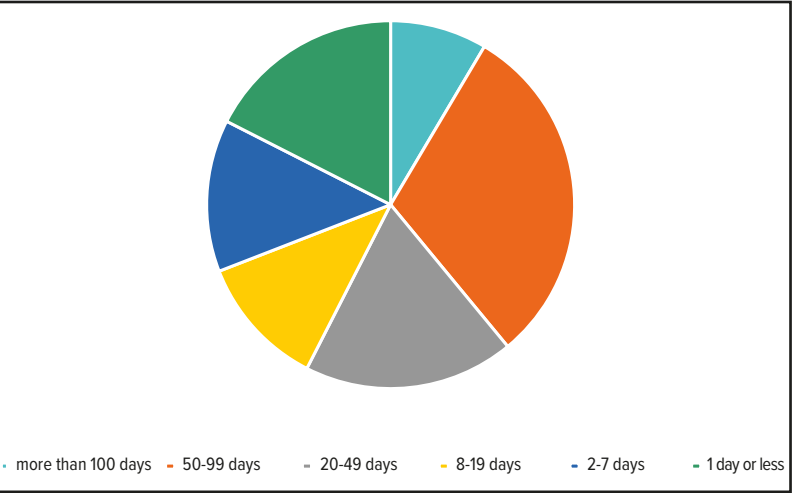
Figure 4. Environmental education DES OP Plzeň 2018. Photo Taťána Typtlová



Graph 5: National Network of Rescue Stations – admissions of European beaver and Eurasian otter individuals to rescue stations in 2007–2018. Prepared by Petr N. Styblo



Graph 6: National Network of Rescue Stations – causes of admissions of animal patients to rescue stations of the national network in 2007–2018. Prepared by Petr N. Styblo



Graph 7: National Network of Rescue Stations – length of stay of the long-eared owl (n = 1,502) in rescue stations in 2007–2017. Produced by Petr N. Styblo

the further fate of animal patients in the Central Register of the National Network. The registered causes of admissions are probably the least meaningful value of the central records, because finding the cause is not always easy, as it is often a combination of several causes or one can only guess what the cause was. For example, a bird sitting on the pavement and unable to fly may be shaken by hitting a glass obstacle or exhausted due to climatic conditions or parasites. But it may also suffer from some kind of zoonosis. A bird with a broken wing on the road may not have been hit by a car, etc. Therefore, data on causes, with exceptions, such as scorched birds found near electrical equipment, predators demonstrably poisoned with carbofuran or shot animals, are taken for reference only. The reasons for admission of animals to the rescue stations of the National Network in the monitored period 2007–2018 are shown in Graph 6. In the category of young (22% of admissions), for example, the admissions of juveniles from destroyed nests, admissions of late-born young and juveniles unnecessarily captured by humans (which account for about 40% of all juvenile admissions) are included. In the category of burns by electrical equipment (2%), the admissions of live birds burned on high-voltage distribution networks are included. The category of injured animals received includes all injuries, except for young and burnt birds. Of these, about 30% are injuries caused by traffic, 25% by hitting an obstacle, 20% are animals injured by another animal. Approximately 2% of all injuries are animals injured by agricultural machinery and less than 1% are animals shot or damaged by traps.



Table 3: National Network of Rescue Stations – numbers of long-eared owls (n = 2,539) received in the years 2007–2018 in different regions based on the population and area of the region. Developed by Petr N. Stýblo

Region	Received individuals of long-eared owl	Individuals per 100,000 inhabitants	Individuals per 100 km²	Average number of individuals per population and area of region
Capital City of Prague	107	8,3	22,8	15,6
Central Bohemian	559	43,9	5,1	24,5
South Bohemian	119	18,7	1,2	9,9
Pilsen	94	16,4	1,2	8,8
Karlovy Vary	35	11,3	1,1	6,2
Ústí nad Labem	208	25,0	3,9	14,5
Liberec	27	6,1	0,9	3,5
Hradec Králové	155	27,9	3,3	15,6
Pardubice	295	58,4	6,5	32,5
Olomouc	274	42,8	5,2	24,0
Moravian-Silesian	297	24,0	5,5	14,8
South Moravian	186	15,9	2,6	9,2
Zlín	131	22,2	3,3	12,7
Vysočina	52	10,1	0,8	5,5

Table 4: National Network of Rescue Stations – numbers of long-eared owls (n = 2,539) received in the years 2007–2018 in different months. The three largest numbers in a given year are indicated in bold. Produced by Petr N. Stýblo

Month	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	Total	Average
1	15	9	8	14	7	<b>24</b>	5	<b>14</b>	<b>36</b>	9	9	7	142	11,8
2	13	21	19	13	9	14	8	10	<b>50</b>	15	10	7	176	14,7
3	13	13	15	36	15	9	9	10	9	17	16	7	156	13,0
4	14	25	<b>30</b>	<b>45</b>	18	14	<b>35</b>	13	12	14	<b>23</b>	7	236	19,7
5	<b>47</b>	<b>78</b>	<b>53</b>	<b>104</b>	<b>76</b>	<b>53</b>	<b>64</b>	<b>41</b>	<b>62</b>	<b>18</b>	<b>47</b>	<b>67</b>	<b>663</b>	<b>55,3</b>
6	<b>46</b>	<b>48</b>	<b>57</b>	<b>39</b>	<b>42</b>	<b>22</b>	<b>32</b>	<b>22</b>	12	<b>31</b>	<b>54</b>	<b>25</b>	<b>384</b>	<b>32,0</b>
7	<b>19</b>	<b>28</b>	21	31	<b>36</b>	17	29	6	13	<b>20</b>	20	<b>23</b>	<b>244</b>	<b>20,3</b>
8	9	7	13	21	10	11	9	4	7	5	7	13	107	8,9
9	9	7	3	8	7	4	1	1	4	3	3	3	44	3,7
10	5	5	0	6	4	7	6	3	0	2	0	3	36	3,0
11	8	10	3	11	3	8	4	3	6	3	4	1	56	4,7
12	4	9	8	10	9	2	5	8	19	2	5	5	82	6,8

Of course, the structure of the causes of their admission to the station varies from one species to another. The following Table 5 lists the spectrum of causes of long-eared owl admissions.

Evaluation of success

From the records we can also trace the fate of the animals received – the length of their stay in the rescue station and the way that stay ended. However, since the central register has not been able to transfer the numbers of kept animals from year to year until recently, it is difficult to follow the fate of animals differently than in one calendar year with such a large amount

of data. As many of the animals are kept in the stations through the winter, the recorded data on animals in the stations have only a limited informative value during one calendar year. This can be illustrated on the data from 2018, when 45% of the animals received were released back into the wild the same year. Another 8% overwintered at the stations and most of them were released in spring 2019. A total of 36% of the received animals died or were euthanized. The success of rescue stations in the care of animals – i.e. the ratio of animals released back to nature compared to all animals received is 50–60% in the long term.

Table 5: National Network of Rescue Stations – frequencies of causes of admissions of long-eared owls (n = 2,539) to rescue stations in 2007–2018. Produced by Petr N. Stýblo

Reason for admission	Frequency
Young	1,100
Captured	69
Poisoning	2
Exhausted, hunger	36
Confiscated	1
Injured	727
Other	604

The length of time an animal stays in the rescue station depends on several factors. Of course, it depends mainly on the health and condition of the animal received, the method of treatment and convalescence, but also on the weather or time of year. For the young of many species, the advantage is the knowledge of the station staff and colleagues from the field, because they allow the young to be placed with optimal adoptive parents, which of course shortens their stay in the station. Graph 7 again illustrates, using the example of the long-eared owl, the length of its stay in the National Network’s rescue stations. Since this species is admitted to the stations mostly due to complicated injuries or as chicks from destroyed nests, it stays in rescue stations longer, an average of 39 days. In one case, an owl was successfully released after its stay in a rescue station lasting 410 days.

The above, more or less randomly selected information illustrates the vast amount of data found in the records of animals received by the National Network of Rescue Stations. The Czech Union for Nature Conservation (CUNC) as coordinator of the National Network estimates that it keeps more than 10 million records of almost a quarter of a million animals. This unique data lies unused, though it could become the basis of many scientific studies. One cannot expect the activity of rescue station workers in this respect. They are completely overloaded with work taking care of thousands of animals and communicating with tens of thousands of people who pass through the stations every year. In any case, processing the acquired data could reveal insufficiencies, differences in approaches and methodologies for animal care, which could make the actual work of the National Network and individual stations more efficient. Therefore, this article is also a call for cooperation.

# Červenohorské sedlo mountain pass: the History and Present of Watching (not only) Bird Migration in our Mountains

Radek K. Lučan, Anna Lučanová, Martin Vavřík

The west-east oriented main ridge of the Jeseníky Mountains is an important migration barrier for flying animals. The remarkable col of the Červenohorské sedlo mountain pass, visible from afar, allows them to cross this barrier with less effort than if they flew over the Jeseníky ridges, and it is no wonder that especially during the autumn migration a huge number of birds, bats and various groups of migratory insects are funnelled into the relatively narrow corridor of the

saddle. Since 2010, this site has been used for monitoring of migratory birds, to which the monitoring of the passage of bats and selected groups of migratory insects has been added in recent years. Especially in connection with bird migration, this is currently the largest research project in the Czech Republic and is the only locality where birds can be observed under appropriate conditions during both daytime and night-time migrations.

The woodcock (*Scolopax rusticola*) is the emblem of the whole project at Červenohorské sedlo mountain pass, since the vast majority of birds recorded during the whole history of bird ringing in the Czech Republic have been captured and ringed right here. Photo Radek K. Lučan.

