Animal mortality on Polish roads in 2016.

Annual report of the "Polish Roadkill Record System". http://zwierzetanadrodze.pl

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1. Introduction

"Polish Roadkill Record System" is a platform for recording and exchanging information on collisions of vehicles with animals. It is addressed to all Polish roads users. The document is the summary of collected data, embracing observations recorded from the beginning of the platform operation (i.e. from July of 2015 with the archival observations included). This is the second summary with the previous one containing data collected by the end of 2015 year (Kustusch and Wuczyński 2016).

Purpose of the annual report is regular presentation of active users (observers) involvement in development of the database, as well as demonstration of the issues of road collisions with animals to a wider group of road users and persons interested in road infrastructure impact on the national fauna.

The report includes basic statistics related to the collected material together with short comments. They discuss among other the dependence of collision size on the road surroundings, season, road category and the main group of victims. Regarding that the number of observations related to amphibians and reptiles is still limited, we resigned from detailed analyses referring to those groups of animals.

The synthesis was carried out on the basis of the number of incidents, not the number of animals (victims). Bearing it in mind that road incidents with some groups of animals (amphibians and reptiles) are frequently of a mass nature, consideration of the number of animals may distort a statistical image of the phenomenon. Therefore, the figures relating to individual animals are exploited only for the purpose of demonstrating the total number of victims for a given species (Tab. 2).

2. General results

Generally, until the end of 2016, the Record System registered 4718 observations related to 7507 individual animals from 150 species (Tab. 1). Majority of observations regarded collisions with individual animals, as incidents with a greater number of victims were recorded several times, mainly in case of amphibians and reptiles. The most sizable accident embracing at least 400 victims (common toad) was reported within the area of Dluga Koscielna (Mazovia Region) on April the 4th 2016 year.

Tab. 1. The number of observations and victims registered to 2016.

Year	Observations	Victims
2016	3022	5315
2015	1413	1711
2000-2014	283	481
Total	**4718**	**7507**

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Animals that were reported most often as victims of road accidents were mammals - hedgehogs and foxes. In case of hedgehogs, 93% of entries only included information about its kind, what is caused by a difficulty to specify properly both national species, i.e. eastern hedgehog - *Erinaceus roumanicus* - and wester hedgehog - *E. europaeus.* Among 67 hedgehogs specified in terms of species, most common was the eastern hedgehog (51 cases), what reflects distribution of both species in Poland, as well as a smaller number of entries from the western part of the country. Among 10 most common road victims six species represent mammals, two species represent birds and one amphibian and reptile.

Tab. 2. A list of accidents victims in terms of species, according to the number of individual animals (N=7507).

Species	N	Species	N
Common Toad *Bufo bufo*	2203	Common Chaffinch *Fringilla coelebs*	23
Hedgehog *Erinaceus sp.*	983	Great Tit *Parus major*	23
Red Fox *Vulpes vulpes*	529	Brown Rat *Rattus norvegicus*	23
Grass Snake *Natrix natrix*	347	Jay *Garrulus glandarius*	21
Rock Dove *Columba livia f. urbana*	215	Least Weasel *Mustela nivalis*	20
Squirrel *Sciurus vulgaris*	195	Red-backed Shrike *Lanius collurio*	19
Beech Marten *Martes foina*	150	Yellowhammer *Emberiza citrinella*	18
Robin *Erithacus rubecula*	142	Great Woodpecker *Dendrocopos major*	17
Badger *Meles meles*	138	Brambling *Fringilla montifringilla*	17
House Sparrow *Passer domesticus*	129	Green Frogs *Pelophylax esculentucomplex*	16
Roe Deer *Capreolus capreolus*	125	Grey Partridge *Perdix perdix*	16
Hare *Lepus europaeus*	119	Elk *Alces alces*	16
Marten sp. *Martes sp.*	111	Hedgehog *Erinaceus europaeus*	16
Blackbird *Turdus merula*	91	Great Crested Newt *Triturs cristatus*	16
Racoon Dog *Nyctereutes procyonoides*	78	Long-eared Owl *Asio otus*	13
Wild Boar *Sus scrofa*	63	Magpie *Pica pica*	12
Common Frog *Rana temporaria*	60	Black-headed Gull *Ch. ridibundus*	12
Sparrow sp. *Passer sp.*	60	European Hamster *Cricetus cricetus*	11
White-breasted Hedgehog *E. roumanicus*	51	Grey Wagtail *Motacilla alba*	10
Tree Sparrow *Passer montanus*	50	Hooded Crow *Corvus cornix*	10
Barn Swallow *Hirundo rustica*	49	Moor Frog *Rana arvalis*	10
Pine Marten *Martes martes*	47	Common Shrew *Sorex araneus*	9
Polecat *Mustela putorius*	47	Adder *Vipera berus*	8
Wood Pigeon *Columba palumbus*	46	Greenfinch *Chloris chloris*	8
Tawny Owl *Strix aluco*	44	Muskrat *Ondatra zibethicus*	8
Song Thrush *Turdus philomelos*	43	Black Redstart *Phoenicurus ochruros*	8
Western Jackdaw *Corvus monedula*	43	Herring Gull *Larus argentatus*	8
Slow Worm *Anguis fragilis*	37	Green Toad *Bufotes viridis*	8
Fieldfare *Turdus pilaris*	35	Striped Field Mouse *Apodemus agrarius*	8
Collared Dove *Streptopelia decaocto*	34	White Stork *Ciconia ciconia*	7
Common Pheasant *Phasianus colchicus*	32	Sand Lizard *Lacerta agilis*	7
Common Buzzard *Buteo buteo*	30	Goldfinch *Carduelis carduelis*	7
Spadefoot *Pelobates fuscus*	30	Common Whitethrout *Sylvia communis*	7
Mole *Talpa europaea*	30	Beaver *Castor fiber*	6
Starling *Sturnus vulgaris*	28	American Mink *Mustela vison*	6
Mallard *Anas platyrhynchos*	27	House Martin *Delichon urbicum*	6
Rook *Corvus frugilegus*	27	Common Linnet *Carduelis cannabina*	5
Otter *Lutra lutra*	24	Skylark *Alauda arvensis*	5

Nuthatch *Sitta europaea*	5	Bearded Reedling *Panurus biarmicus*	1
North American Racoon *Procyon lotor*	5	Lapwing *Vanellus vanellus*	1
Nightjar *Caprimulgus europaeus*	5	Serotine Bat *Eptesicus serotinus*	1
Eurasian Blue Tit *Cyanistes caeruleus*	4	Kingfisher *Alcedo atthis*	1
Smooth Newt *Lissotriton vulgaris*	4	Eurasian Lynx *Lynx lynx*	1
Grey-headed Woodpecker *Picus viridis*	4	Marsh Frog *Pelophylax ridibundus*	1
Edible Frog *Pelophylax esculentus*	4	Wood Mouse *Apodemus sylvaticus*	1
Hawfinch *C. coccothraustes*	4	Corncrake *Crex crex*	1
Eurasian Blackcap *Sylvia atricapilla*	4	Brown Bear *Ursus arctos*	1
Red Deer *Cervus elaphus*	4	Bittern *Botaurus stellaris*	1
Corn Bunting *Emberiza calandra*	4	Common Crane *Grus grus*	1
Common Redstart *P. phoenicurus*	3	Mistle Thrush *Turdus viscivorus*	1
Lesser Whitethrout *Sylvia curruca*	3	Marsh Tit *Poecile palustris*	1
Grey Wolf *Canis lupus*	3	Egyptian Goose *Alopochen aegyptiaca*	1
Swift *Apus apus*	3	European Serin *Serinus serinus*	1
Sparrowhawk *Accipiter nisus*	3	Common Sandpiper *Actitis hypoleucos*	1
Eurasian Siskin *Spinus spinus*	3	Woodlark *Lullula arborea*	1
Yellow Wagtail *Motacilla flava*	3	Red-footed Falcon *Falco vespertinus*	1
Great Grey Shrike *Lanius excubitor*	3	Pipistrelle sp. *Pipistrellus sp.*	1
Eurasian Wren *Troglodytes troglodytes*	3	Yellow-necked Mouse *Apodemus flavicollis*	1
Smooth Snake *Coronella austriaca*	3	Marsh Warbler *Acrocephalus palustris*	1
Barn Owl *Tyto alba*	2	Water Shrew *Neomys fodiens*	1
Willow Warbler *Phylloscopus trochilus*	2	Redwing *Turdus iliacus*	1
Reed Warbler *Acrocephalus scirpaceus*	2	Mute Swan *Cygnus olor*	1
Stoat *Mustela erminea*	2	Brown Long-eared Bat *Plecotus auritus*	1
Netterjack Toad *Bufo calamita*	2	Wryneck *Jynx torquilla*	1
Bat sp. *Chiroptera*	2	Thrush Nightingale *Luscinia luscinia*	1
Bank Vole *Myodes glareolus*	2	Goshawk *Accipiter gentilis*	1
Spotted Flycatcher *Muscicapa striata*	2	Golden Jackal *Canis aureus*	1
Eurasian Coot *Fulica atra*	2	Common Gull *Larus canus*	1
Long Tailed-Tit *Aegithalos caudatus*	2	Middle Spotted Woodpecker *D. medius*	1
Eurasian Woodcock *Scolopax rusticola*	2	Eurasian Kestrel *Falco tinnunculus*	1
Whinchat *Saxicola rubetra*	2	Gull sp. *Larus sp.*	1
Sand Martin *Riparia riparia*	2	Eurasian Bullfinch *Pyrrhula pyrrhula*	1
Tree Pipit *Anthus trivialis*	2	Common Quail *Coturnix coturnix*	1
European Bison *Bison bonasus*	2	Little Owl *Athene noctua*	1
Tree Frog *Hyla arborea*	2	Viviparous Lizard *Zootoca vivipara*	1
Goldcrest *Regulus regulus*	2	Common Moorhen *Gallinula chloropus*	1
Fire Salamander *S. salamandra*	1	Boreal Owl *Aegolius funereus*	1

The high share of mammals among roadkills comparing with the other group of animals is probably the result of higher detection rate of mammals on the roads because of their relatively large bodies (red fox, badger, roe deer, hare, hedgehog). However, some publications suggest that amphibians (Orłowski 2007) and small rodents (Orłowski i Nowak 2006) are the animals that die on Polish roads most often. Indeed, our data shows that a common toad is the most common road victim in Poland in terms of number of individuals found on the roads (2203 individuals; Tab. 2), giving it the third place when it comes to the number observations. Those results are in line with other studies conducted in Poland and across Europe where the common toad was the most abundant roadkill species (Orłowski and Nowak 2006, Orłowski2007,

Elżanowski et al. 2009). This is due to high numbers of this species found in Poland and Europe, regular and distant migration habits, and relatively slow movements (walking), which rises the risk of being hit by vehicles (Kurek i inni 2011).

A relatively small share of those animals in the presented comparison results from their small sizes, what causes that they are hardly noticeable and quickly smashed. The issue of being hardly noticeable and easily smashed is also the reason of a relatively small share of birds. The most often observed victims in this groups are rock pigeons, sparrows and black bird, what coincides with another analysis carried out for the whole country (Borowska 2015).

Distribution of observations within the country is not even (Fig. 1), as western areas of the state are almost totally deprived of data. When it comes to the administrative division, data from the north-eastern and south-western regions prevail, and share of observations from remaining voivodships is differentiated (Fig. 2). Distribution of the previously registered collisions reflects rather the activity of particular observers than actual differences in collisions intensity on national roads.

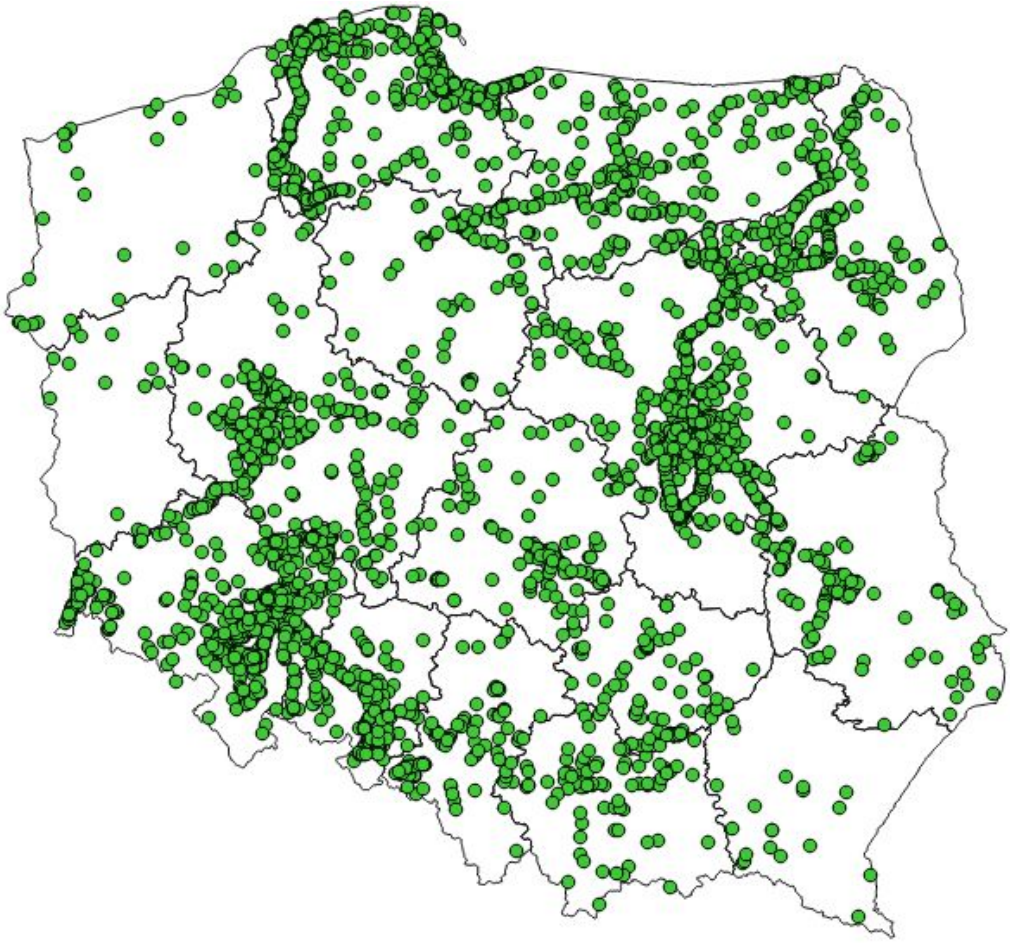

Fig. 1 Distribution of road collisions with animals in Poland, entered into the Record System until the end of 2016 (N=4718).

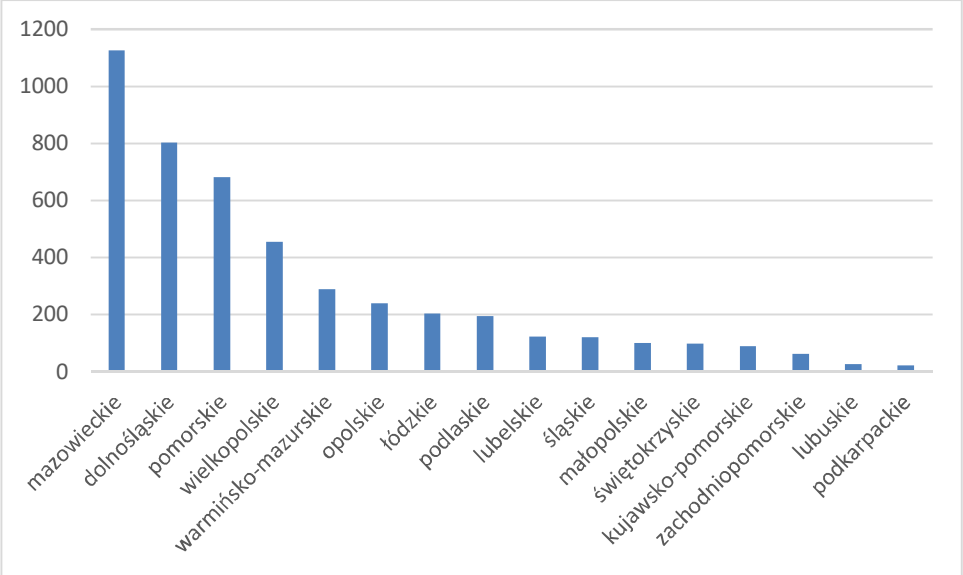

Fig. 2 The number of observations in particular voivodships (N=4628).

3. The number of collisions regarding the type of road surroundings

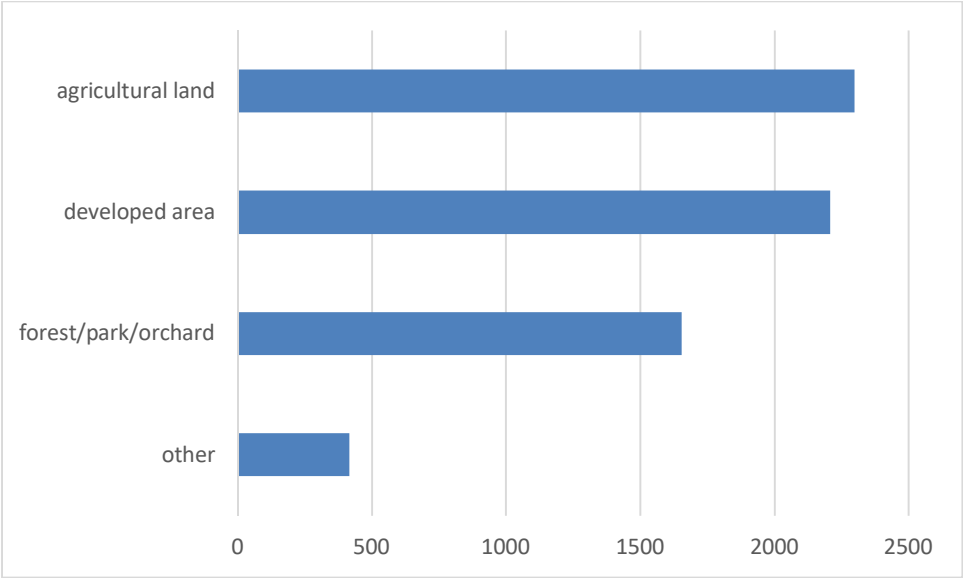

Fig. 3 The total number of collisions in particular surroundings (N=4575).

While comparing observations of all taxonomic groups (amphibians, reptiles, birds and mammals), the greatest number of collisions was recorded on roads surrounded by agricultural lands (35%), developed areas (34%) and forests (25%) (Fig. 3). These results reflect population and environmental selectiveness of the main species of victims, but also the share of particular surroundings - agricultural lands pose 60% and forests pose 30% of the Polish territory. Great share of collisions within residential areas, occupying only about 2% of the Polish territory, is

related to disproportionately high densities of some species (house sparrow, rock dove, beech marten) and the highest activity of observers and identifiability of animals in that zones.

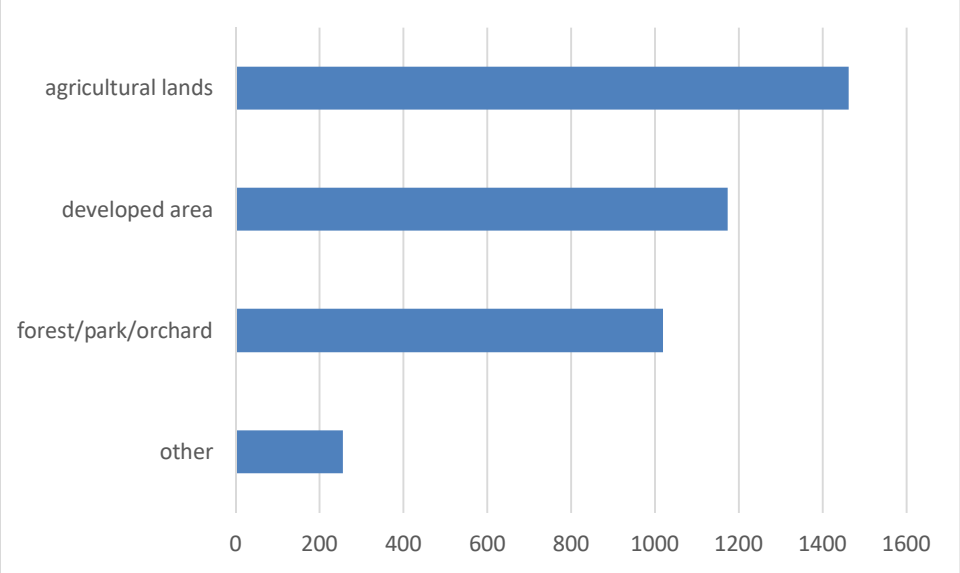

Fig. 4 The number of collisions with mammals in particular environments (N=2689).

Hit mammals were most often observed on roads running through agricultural lands (37%) (Fig. 4). In case of developed lands and forests, the number of identified mammals was slightly lower, and close to each other, amounting to 30% and 26% respectively.

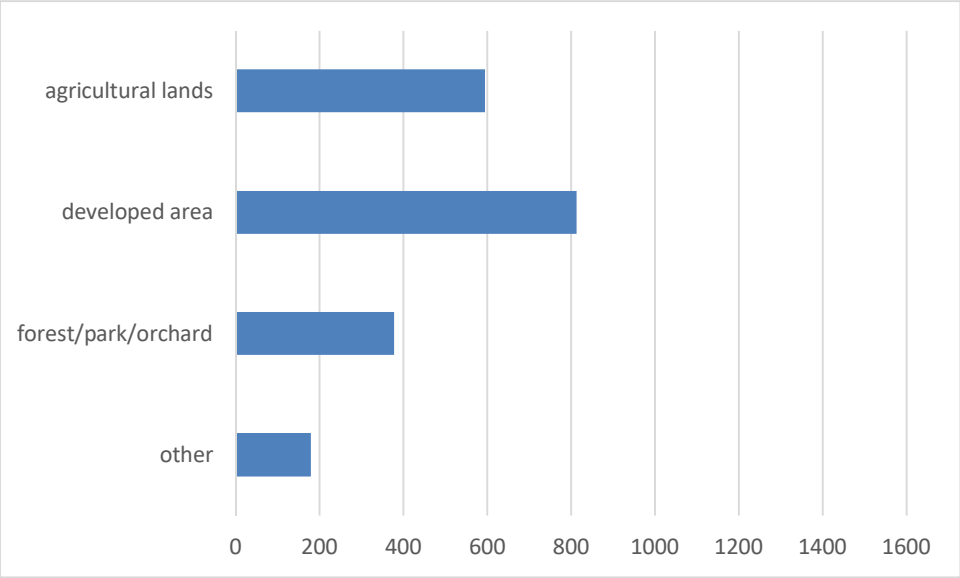

Fig. 5 The number of collisions with birds in particular environments (N=1347).

Bird victims of collisions dominated within developed areas (41%) and agricultural lands (30%) (Fig. 5). A significant difference in the number of collisions between those environments is caused by a great - amounting to 22% - share of rock pigeon in the pool of birds observed in cities.

Results of analysis limited to three types of environments identified most often - developed areas, agricultural lands and forests - do not deviate significantly from the general results (Fig. 6-8).

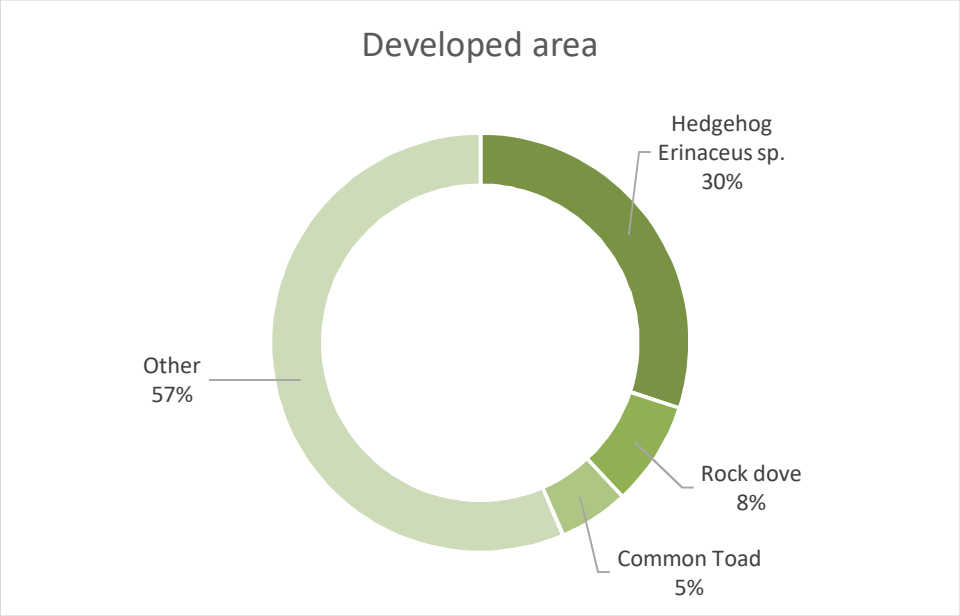

Fig. 6 Share of the main collisions victims within developed areas (N=2207).

Mammals that were most frequent collisions victims within developed areas were hedgehogs (*Erinaceus* in total). These animals often occur in urban residential areas and in cities, especially within the suburban zones, in detached houses districts or garden plots zones. Smaller numbers were recorded for rock dove and – with almost equal values - common toad (N=119), house sparrow (N=116) and fox (N=111) (Tab. 3).

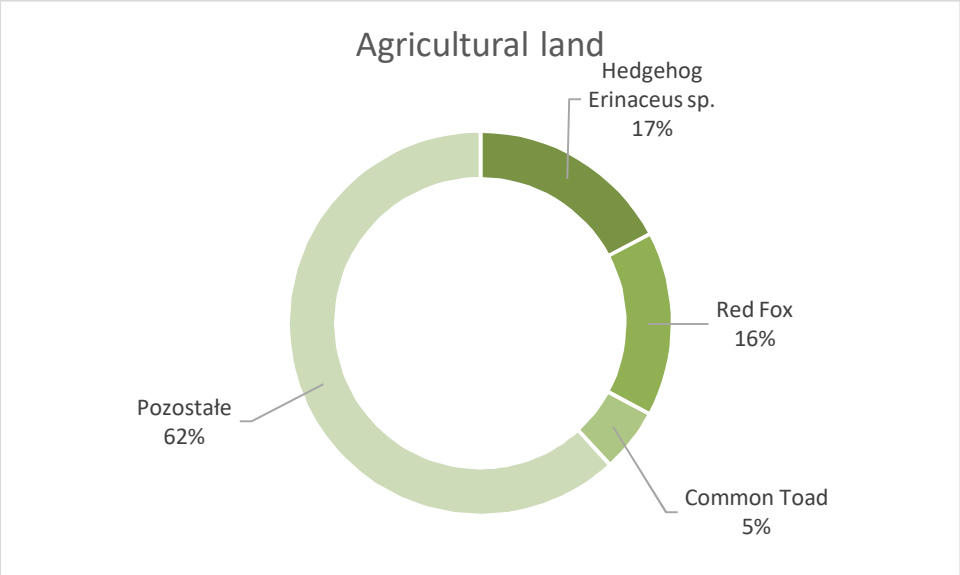

Fig. 7. Share of the main collision victims within agricultural lands (N=2298).

The most frequent victims within agricultural lands and equal share were hedgehog and fox (Fig. 7).

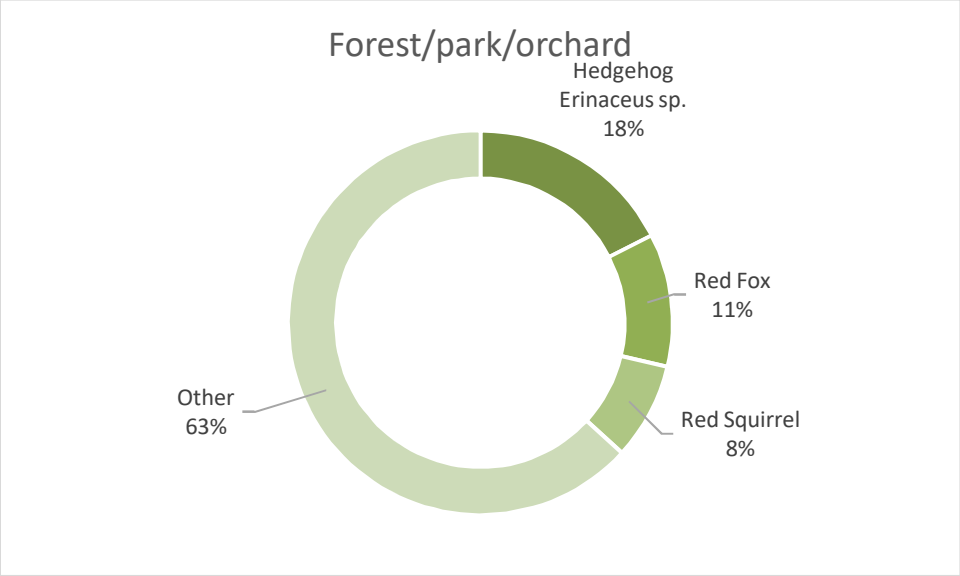

Fig. 8. Share of the main collision victims in forests (N=1653).

Dominating collision victims were foxes and hedgehogs also in forests (Fig. 8), and squirrels. It confirms habitat flexibility of the first two species, expressing a strict connection of the squirrel with wooded lands, and results from commonness of those animals in Poland.

The list of remaining victims is long - in case of developed areas and forests it embraces 110 species equally, and 124 within agricultural lands. Shares of those species represent the qualities of fauna in discussed environments in a better manner than the dominating species. Comparison and percentage share of dominating species (over 2% of the share) in particular environments is presented in the list below (Tab. 3).

Tab. 3. Comparison and percentage share of dominating species in particular environments

	Developed areas	**%**	**Agricultural lands**	**%**	**Forests**	**%**
1.	Hedgehog (*sp.*)	30	Hedgehog (*sp.*)	17	Hedgehog (*sp.*)	18
2.	Rock Dove	8	Red Fox	16	Red Fox	11
3.	Common Toad	5	Common Toad	5	Red Squirrel	8
4.	House Sparrow	5	Badger	4	Common Toad	6
5.	Red Fox	5	Beech Marten	4	Grass Snake	5
6.	Red Squirrel	4	Hare	4	Roe Deer	3
7.	Beech Marten	3	Roe Deer	4	Badger	3
8.	Blackbird	2	Grass Snake	3	Blackbird	3
9.	Jackdaw	2	Racoon Dog	2	Beech Marten	2
	Total	**64%**		**59%**		**59%**

Roadkill environments of the dominating species.

The charts presented below reflect the share of the main environments where the five most common roadkill species were recorded (Fig. 9-13). The prevalence of developed areas can be seen in case of hedgehogs, and agricultural areas for foxes (Fig. 9 and 10) what is in line with

general habitat preferences of those species. It is interesting that according to the materials, collisions with foxes within the developed areas were relatively scarce (9% of cases), while pursuant to previous research from the Lower-Silesia region (Orłowski and Nowak 2006), the foxes were most often killed within the developed areas. It is worth noting that the share of hedgehogs in forested areas was higher comparing to the previous Report (Kustusch and Wuczyński 2015). It probably resulted from annexing parks and other wooded lands to the common category – "forests".

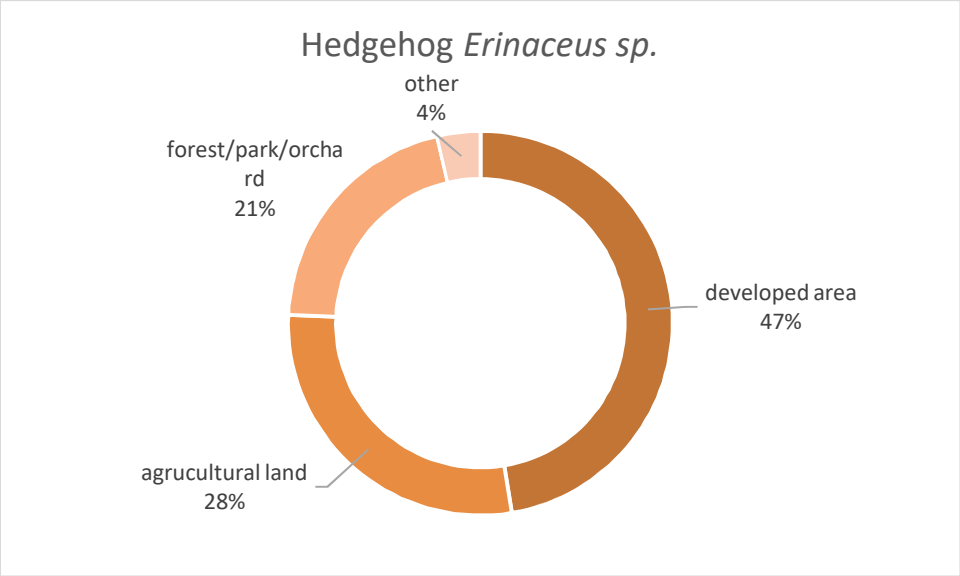

Fig. 9. Road collisions with *Erinacus* hedgehogs divided according to specified habitats (N=967).

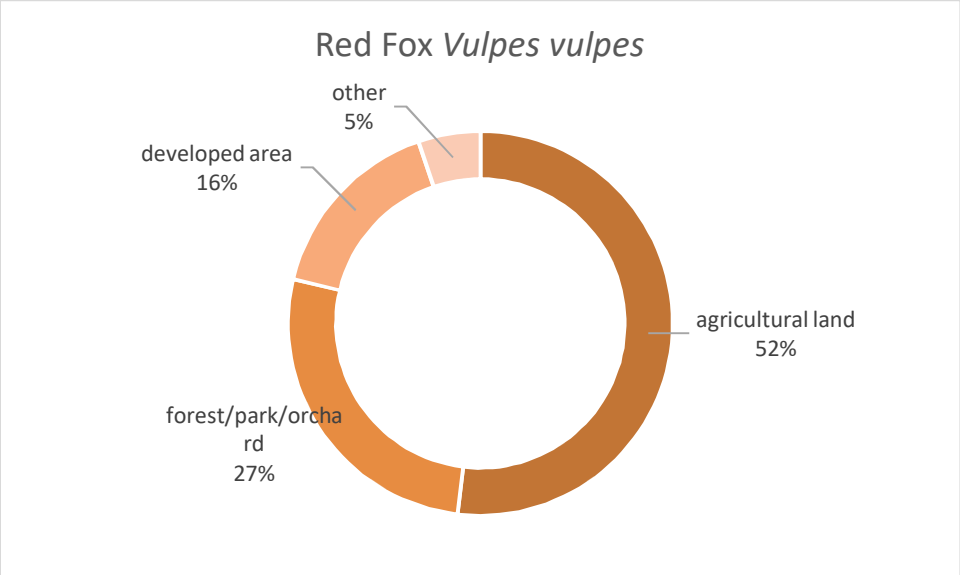

Fig. 10. Red Fox share in particular habitats (N=499).

Common Toads were recorded mainly in the mosaic landscape of agricultural lands, developed areas and forests (Fig. 11), i.e. rural areas and suburbs with scattered buildings, backyard ponds, parks and orchards - where this species is often found.

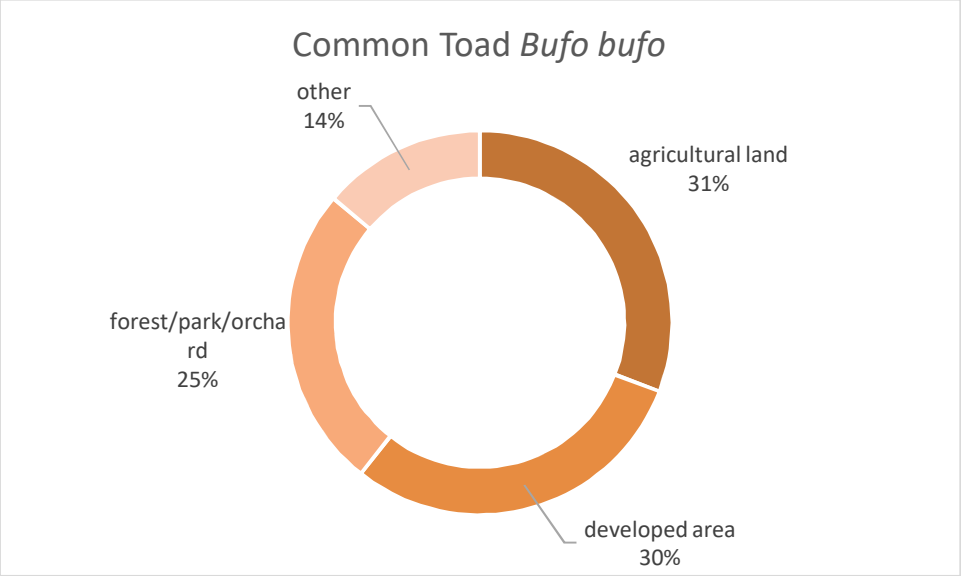

Fig. 11. Commond Toad share in particular habitats (N=247).

The occurrence of rock dove is highly related to the presence of developed areas. The figure given below reflects the habitat preferences of this species – 2/3 of all records comes from developed areas (Fig. 12).

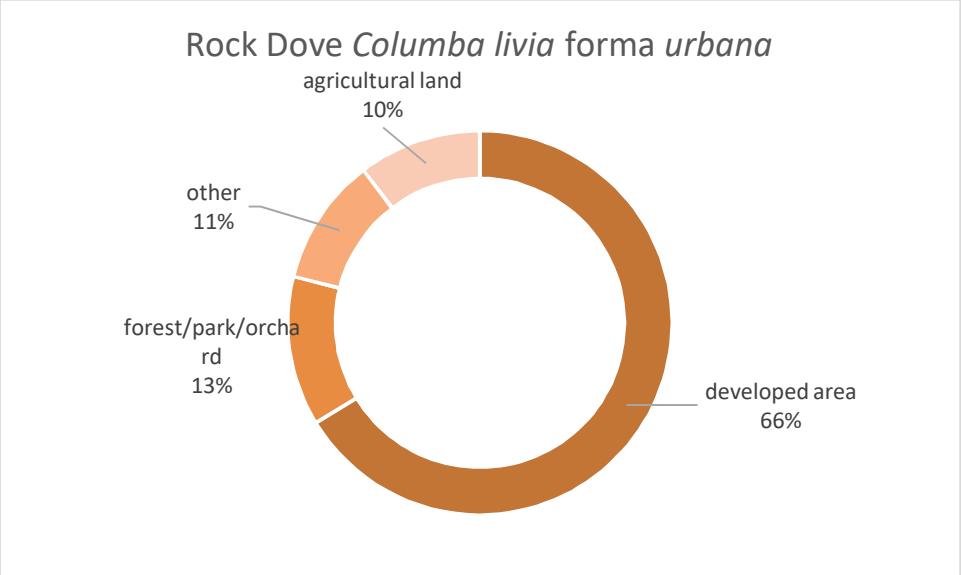

Fig. 12. Rock Dove share in particular habitats (N=203).

Squirrel inhabits forests and other wooded lands as shelterbelts and parks. Squirrel roadkills were mostly recorded adjacent to wooded areas with the high share of developed areas (Fig. 13), again, reflecting habitat preferences of this species.

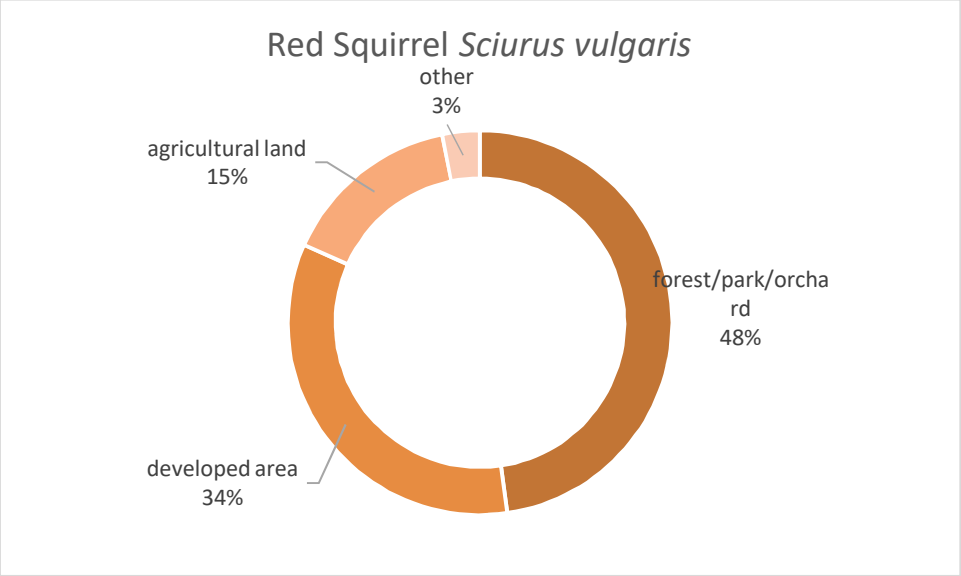

Fig. Red Squirrel share in particular habitats (N=188).

4. Influence of other variables on intensity of collisions with animals

4.1. Season

In a year cycle, the numbers of road collisions with animals are not even. When analyzing all four groups of animals altogether (mammals, birds, reptiles and amphibians) one peak of mortality occurs showing that most collisions in Poland take place in the spring period (Fig. 14).

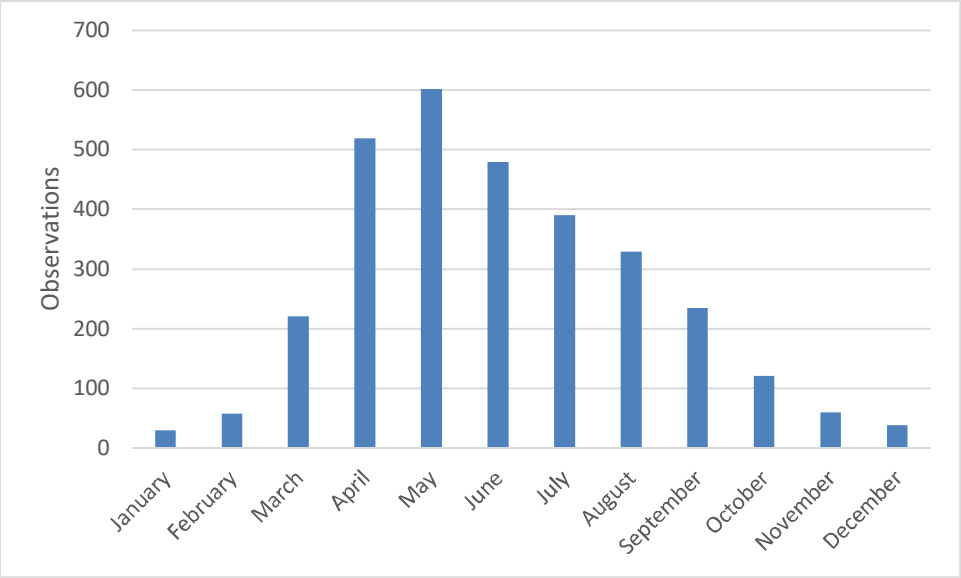

Fig. 14. The number of collisions in particular months for all taxonomic groups in total, and for birds and mammals (2016 r.; N=3008).

Unimodal distribution of roadkills throughout the year occurs also when considering all classes separately (Fig. 15-17; reptiles were excluded due to the scarcity of data collected).

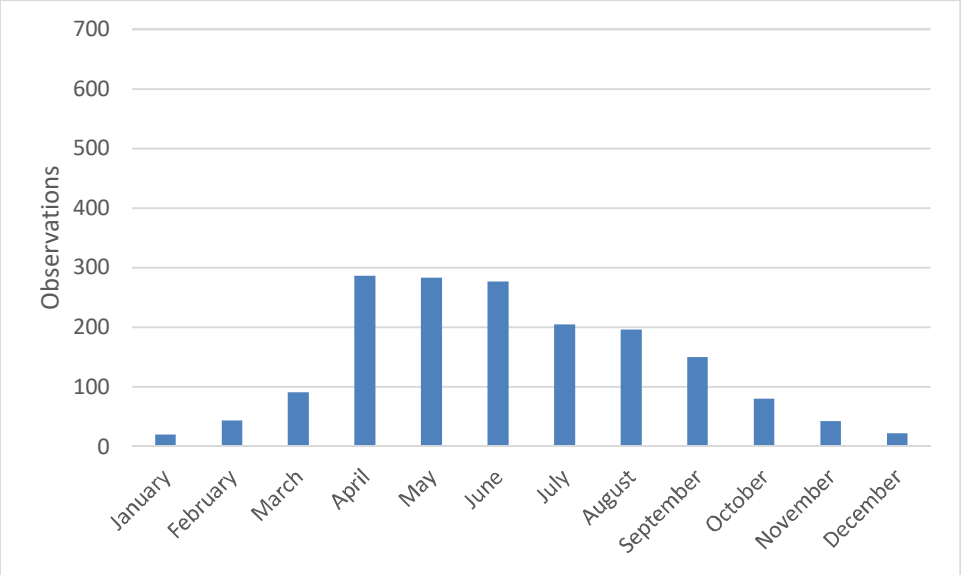

Fig. 15. The number of collisions in particular months with mammals (2016 r.; N=1661).

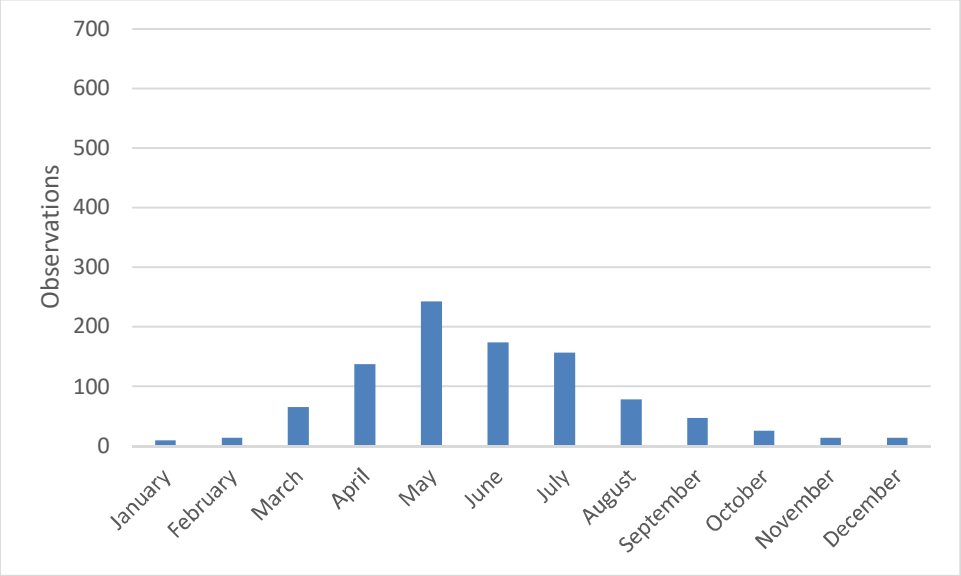

Fig. 16. The number of collisions in particular months with birds (2016 r.; N=957).

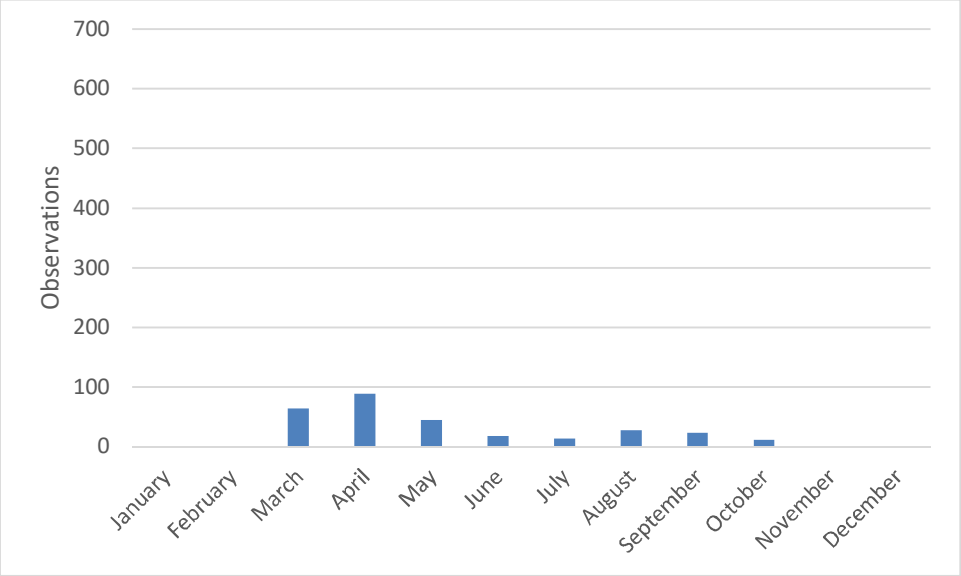

Fig. 17. The number of collisions in particular months with amphibians (2016 r.; N=227).

Analysis made for particular species is not so unambiguous. Fox roadkills were found mostly in the summer, however, shorter peak in the spring can also be seen (Fig. 18). Roe deer, adversely, were noted mostly in the spring (Fig. 19). For other species (not showed) yet the spring peak was most obvious. This is linked with the mating season occurring that time in the most species. When it comes to road collisions with ungulates authors are not consistent. Czerniak and Tyburski (2014) show two peaks of road mortality for ungulates, Borkowska (2015), however, presents one climax in the autumn.

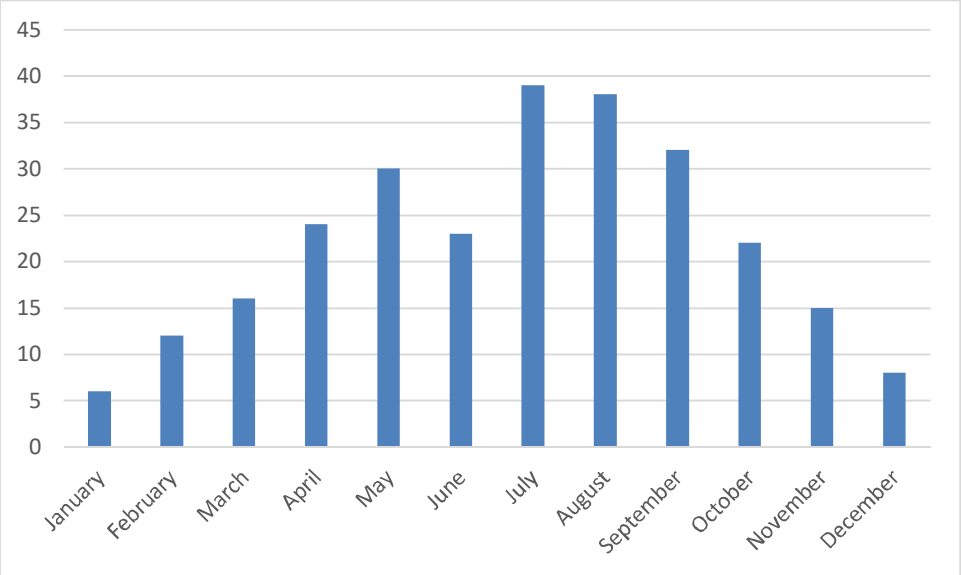

Fig. 18. The number of collisions in particular months with Red Fox (2016 r.; N=251).

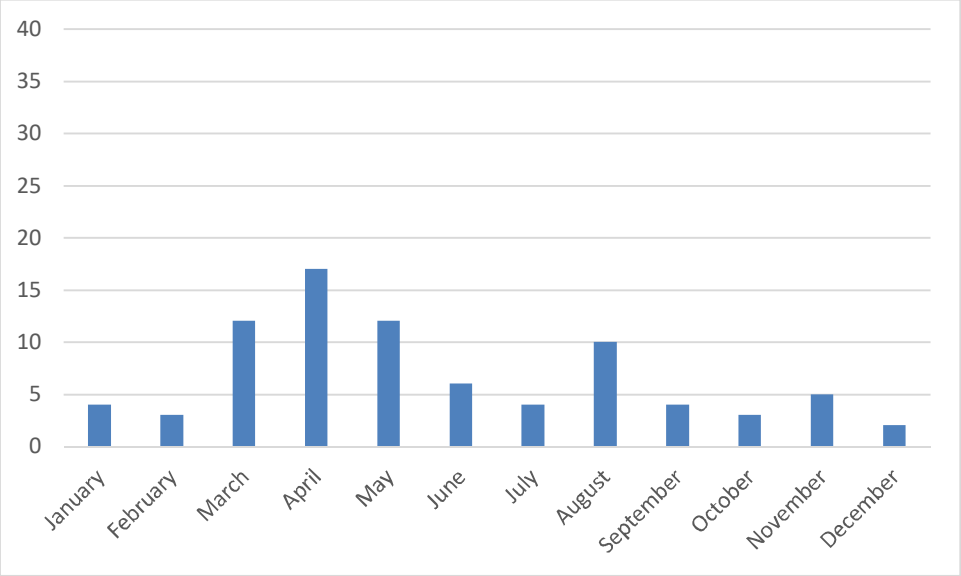

Fig. 19. The number of collisions in particular months with Roe Deer (2016 r.; N=76).

The spring peak is caused by greater mobility of animals, related to migrations, breeding period, feeding of young animals and their appearance itself. Amphibians are mainly responsible for the spring peak (Orłowski 2007) and birds (Fig. 16-17). In autumn numerous mammals die regarding the reproductive period of some species, as well as occurrence and dispersion of young animals (Orłowski 2007, Borowska 2010, Borowska 2015) (Fig. 15, 18-19). Regardless of the number of peaks and their terms recorded for particular classes and species, this is winter when collisions are least noted (Fig. 14; Borowska 2015). This is related to the lower activity of animals, their lower quantities (hibernation – amphibians, reptiles, some mammals; migrations - birds) and winter road conditions forcing slower and cautious driving. However, the snow cover cannot be ignored as it hampers the detection of roadkills lying on the roadside under the snow.

5. Event time

The observations card/sheet was provided with “Event time” section. It means the spell of time passed from the collision event, providing the information on the carcass persistence time. The chart presented below (Fig. 20), given for two classes (birds and mammals), shows the different share of two most frequent time categories, i.e. “up to 12 hours” and “several days” intervals. The share of both categories for mammals was alike, with slight predominance of the first interval mentioned above. For birds, however, the share of “up to 12 hours” interval was predominant constituting 2/3. This is in line with other studies (Santos et al. 2011, 2016) showing the longer carcass persistence for large bodied animals (mammals).

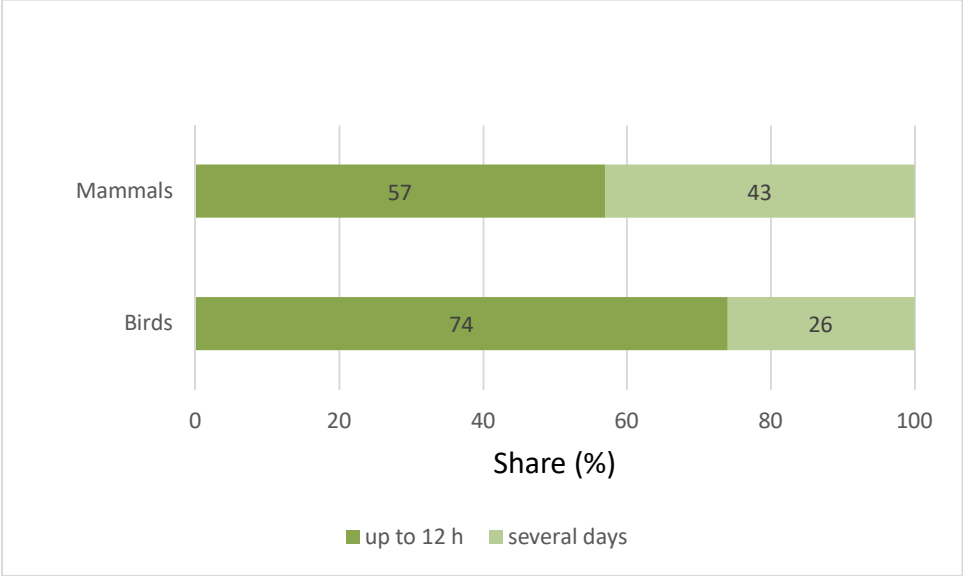

Fig. 20. Carcass persistence time for birds and mammals.

6. Road category

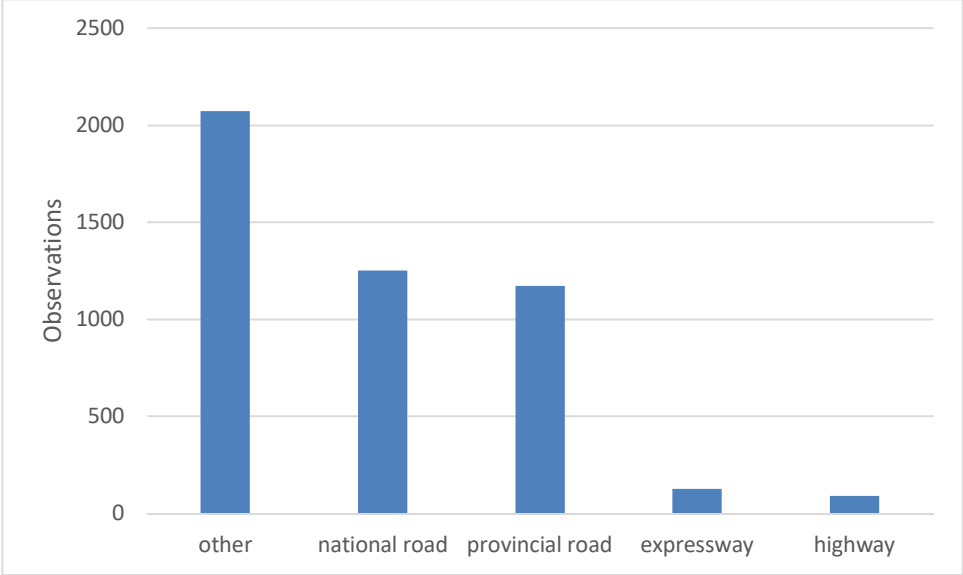

Fig. 21. The number of observations according to the road category (N=4705).

The number of entries related to road collisions with animals was inversely proportional to the level of road "significance", and probably the traffic intensity. The greatest number of entries referred to collisions on the other roads - poviat, commune, and the lowest number on express roads and motorways (Fig. 21). It is not known to what degree this result reflects the actual distribution of collisions, and the share of a given category of roads in our country. Majority of auxiliary roads in Poland (poviat, etc.) may cause that the total number of victims in Poland is the greatest on that kind of roads. What is more, the result is influenced by fencing of express roads, and the fact that drivers' attention is directed rather towards safe driving than recording such victims. Specification of a real distribution of collisions with animals, regarding the road type requires much broader materials and analyses that consider confounding variables.

7. Summary

The document present basic data included in the "Polish Roadkill Record System", relating to years 2015 and 2016, and complemented with data from previous years. The platform was used by 182 observers, who provided data about more than 7500 collisions, described in details, often supported with photo documentation. Such a great interest proves the need and relative easiness to collect observations of road accidents with animals systematically, justifies the purpose for development of the Record System, and at the same time, unfortunately, confirms the problem of serious mortality of animals on Polish roads.

A significant element of the Report is a table including a set of previous data, which suggests, among others, broad diversity of victims in terms of species. Apart from sizable animals, generally known as victims of road collisions, recorded by police or road services, the table also documents mortality of small animals, probably constituting the "main mass" of road victims, however usually omitted or underestimated. The group of collision victims also encompasses animals that are relatively rare in Poland and/or perceived as endangered, based on international criteria, e.g. Smooth snake *Coronella austriaca*, red-footed falcon *Falco vespertinus*, a barn owl *Tyto alba*, boreal owl *Aegolius funerenus*, bearded reedling *Panurus biarmicus,* hamster *Cricetur cricetur*, European bison *Bison bonasus*, lynx *Lynx lynx*, grey wolf *Canis lupus*, brown bear *Ursus arctos*. Evidence proving that traffic exerts certain impact on this group of animals, pose a significant argument for the need to search for solutions that minimize the scale of road collisions.

Though this Report is the second compilation of the data collected in the Platform (check Kustusch and Wuczyński 2016) it cannot be treated as a source of information that fully describes the problem of road collisions with animals. First of all, we need to be aware that the recorded number of about 7000 victims is a scant proportion of animals that were actually killed on Polish roads within past months. The presented distribution of collisions on the national map does not need to present the frequency of collisions, but rather places, in which the most active observers operate. However, these are inadequacies typical for initial analyzes and mass projects. The register is based on involvement of a group of various roads users, communicating their observations voluntarily, which are valuable despite not being collected regularly. Probably just the results from several years, much broader, collected in this manner will allow to draw measurable conclusions when it comes to the scale of road traffic influence on animals, selection of sensitive spots on the national map, with an increased risk of collisions, as well as development of recommendations minimizing this phenomenon.

Operation of the Record System and development of this summary would not be possible without involvement of a group of active Users, who devoted their time to collect and enter their observations into the Record System. Thank you a lot for this! We would like to express special gratitude towards Bartłomiej Paul, for his professionalism and unique patience while supervising the project in IT terms.

Thank you for the involvement!

Karol Kustusch
Andrzej Wuczyński
--Coordinators--

Wroclaw, June 2017

Users with at least one observation entered:

Bold font indicates persons with the highest numer of observations entered. Nicks or initials mean persons who did not allowed to publish their full names.

Aneta Balcerkiewicz, AG, Katarzyna Barańska, Anna Bator, Marek Bebłot, Łukasz Berlik, Jacek Betleja, Alicja Bielecka, Wesoly Bimbrownik, Maciej Bonk, Anna Buczma, Małgorzata Bukowa, Ewa Burda, EC, chelifer, Andrzej Chwierut, Dawid Cząstkiewicz, Birdwatcher, daro2726, Maciej Drapella, Joanna Duriasz, Michał Fabiszewski, Joanna Frankiewicz, filip, garrulus, **Małgorzata Goc**, Aneta Gajko, Grzegorz Gołębniak, **Arkadiusz Gorczewski**, Agnieszka Grajewska, Adam Gruszczyński, Adam Guziak, Krzysztof Henel, jason, Krzysztof Jankowski, Rafał Jelonek, jewiniec, Adam Juźwiak, Jan Kaczmarek, Anna Kamilewicz, Mikołaj Kaczmarski, Tomasz Kalinowski, Roman Kalski, Piotr Kazimirski, KM, Antoni Knychała, Aleksandra Kolanek, Paweł Kołodziejczyk, Agnieszka Konowalik, Kamil Konowalik, Agnieszka Kosicka, Anna Kossakowska-Krajewska, Martyna Kotala, Alicja Kowalczyk, Joanna Kowalska, **Karol Kustusch**, Agnieszka Labudda, Magdalena Lewińska, Jerzy Łaźniewski, Stanisław Łubieński, Łukasz, LeszekM, maciek, Magda, Alicja Makowiecka, Maksool, Konrad Marczewski, **Tomasz Maszkało**, Hubert Mateuszczyk, **Krzysztof Matyjasik**, Sebastian Menderski, md, Waldemar Michalik, MG, Katarzyna Mikicińska, MK, MK, MT, MU, Łukasz Myczko, Oliwier Myka, Diana Nawłoka, **Błażej Nowak**, p333, Agnieszka Ożarowska, Monika Pastrykiewicz, Bartek Paul, Zuzanna Pestka, Małgorzata Pietkiewicz, Marcin Przymencki, Michał Przystański, Tomasz Raczyński, Adrianna Rafalska, Barbara Rutkowska, Justyna Rybak, Adam S., Saszka, Mariusz Simka, Małgorzata Siuta, **Jarosław Słowikowski**, Bartosz Smyk, Krzysztof Sokół, Karolina Stefaniuk, W.Stephan, **Przemysław Stolarz**, Anna Struczewska, Paweł Szczepaniak, Anna Szpara, **Hanna Sztwiertnia**, TK, Katarzyna Turzańska, Jacek Udolf, Ela Urbaniak, Marcin Urbańczyk, Wacek, Klaudia Wala, Łukasz Wardecki, **Marcin Wężyk**, Elżbieta Witkowska, WJ, Andrzej Wuczyński, Robert Wróblewski, Agata Zienkiewicz.

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