

RABIES BULLETIN EUROPE

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1. EDITORIAL

With this issue we have begun making some changes in the content and format of the Rabies Bulletin Europe.

1. Instead of the "Summary of rabies in Europe" and the short articles in "Rabies in individual countries" you will find two summary tables in "Summary of rabies cases in Europe". One presents the data of the present quarter and one is a cumulative table of the year. These two tables give an overview of the numbers of rabies cases per country as a sum of cases in the categories wildlife, domestic animals, bats and human cases.

2. To indicate trends in the number of rabies cases, additional tables have been included. In these, the present quarter is compared with the previous one and with the same quarter of the previous year. Furthermore, the present year is compared with the previous year and for longer-term trends with the average of the past 10 years. Within the next issues of the Rabies Bulletin Europe, the number of animals tested will be included. The trend tables will then become much more valuable as rabies prevalences can be described and compared over time.

3. Human rabies cases are added and marked in blue in the map.

We also announce that in future we will try to play a more active role in electronic publishing. We intend to improve and extend the information that is available on the Internet and will present it more interactively.

We hope that you find the modifications useful. Any suggestions and remarks regarding the content of the Rabies Bulletin Europe are appreciated.

I would also like to thank the colleagues from European countries who send us their rabies data, the authors of miscellaneous articles and the readers of the Rabies Bulletin Europe for their support of the new editorship.

Carsten Pöttsch

RABIES CASES

4th QUARTER 2002

TOTAL 2002

Name	Code	Total	Wildlife	Domestic animals	Bats	Human	Remarks	Total	Wildlife	Domestic animals	Bats	Human	Remarks
ALBANIA	ALB	1	1	0	0	0		1	1	0	0	0	
AUSTRIA	AUT	0	0	0	0	0	no cases	24	22	2	0	0	
BELGIUM	BEL	0	0	0	0	0	rabies free	0	0	0	0	0	
BOSNIA A HERCEGOV	BIH	14	12	2	0	0		52	42	10	0	0	
BULGARIA	BUL	3	3	0	0	0		16	16	0	0	0	1 fox for III '02 added
BELARUS	BLR	297	226	71	0	0		809	580	229	0	0	
CROATIA	HRV	194	185	9	0	0		501	475	26	0	0	
CYPRUS	CYP	0	0	0	0	0	rabies free	0	0	0	0	0	
CZECH REPUBLIC	CZH	0	0	0	0	0	no cases	3	3	0	0	0	
DENMARK	DNK	0	0	0	0	0	no cases	3	0	1	2	0	1 bat for III '02 added
GERMANY	DEU	17	16	0	1	0		43	33	2	8	0	
ESTONIA	EST	169	146	23	0	0		422	355	67	0	0	
FINLAND	FIN	0	0	0	0	0	rabies free	0	0	0	0	0	
FRANCE	FRA	0	0	0	0	0	no cases	3	0	1	2	0	
FED.REP. OF YUGOSL	YUG	86	73	13	0	0		217	181	36	0	0	
GREECE	GRC	0	0	0	0	0	rabies free	0	0	0	0	0	
HUNGARY	HUN	55	46	9	0	0		160	129	31	0	0	
ICELAND	ISL	0	0	0	0	0	rabies free	0	0	0	0	0	
IRELAND	IRE	0	0	0	0	0	rabies free	0	0	0	0	0	
ITALY	ITA	0	0	0	0	0	rabies free	0	0	0	0	0	
LITHUANIA	LTU	346	224	122	0	0		932	681	251	0	0	
LUXEMBOURG	LUX	0	0	0	0	0	rabies free	0	0	0	0	0	
LATVIA	LVA	177	141	36	0	0		500	411	89	0	0	
MACEDONIA	MKD	0	0	0	0	0	no data	0	0	0	0	0	
MOLDOVA	MDA	11	3	8	0	0		33	17	16	0	0	
NETHERLANDS	NED	0	0	0	0	0	no cases	3	0	0	3	0	
NORWAY	NOR	0	0	0	0	0	rabies free	0	0	0	0	0	
POLAND	POL	271	226	44	1	0		1188	1030	153	5	0	
PORTUGAL	PRT	0	0	0	0	0	rabies free	0	0	0	0	0	
ROMANIA	ROU	21	15	6	0	0		115	70	45	0	0	
RUSSIAN FEDERATION	RUS	1088	502	583	0	3		3089	1207	1876	1	5	
SPAIN	ESP	3	0	3	0	0		8	0	7	1	0	
SLOVAK REPUBLIC	SVK	43	38	5	0	0		113	94	19	0	0	
SLOVENIA	SVN	9	9	0	0	0		15	15	0	0	0	
SWEDEN	SWE	0	0	0	0	0	rabies free	0	0	0	0	0	
SWITZERLAND/LIECHTEN.	CHE	0	0	0	0	0	no cases	1	0	0	1	0	
TURKEY	TUR	35	4	31	0	0		249	32	217	0	0	
UKRAINE	UKR	661	322	338	0	1		1549	658	889	1	1	
UNITED KINGDOM	UNK	1	0	0	0	1		2	0	0	1	1	
total		3502	2192	1303	2	5		10051	6052	3967	25	7	

Wildlife: excluding bats

2. SUMMARY OF RABIES CASES IN EUROPE

3. MISCELLANEOUS ARTICLES

3.1 Rabies Situation and Rabies Control in the Czech Republic 2000 – 2002

by O. Matouch¹ and J. Vitásek²

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1. Oral vaccination of foxes

The field trial of oral immunization of foxes was started in the Czech Republic in spring 1989. The first application of the oral rabies vaccine (SAD B19-Tübingen) was carried out in the districts Klatovy, Domazlice, Tachov adjacent to the German border in spring 1989. During the course of the next campaigns the treated area was extended covering 44 districts in autumn 1992. In the autumn 1993 the whole territory of the Czech Republic, with exception of rabies free districts bordering Germany, was included.

Since 1992 only the Czech made vaccine LYSVULPEN manufactured by BIOVETA Ivanovice with the SAD Bern vaccine virus strain has been used in the Czech Republic.

The "Bavarian model" was applied during all vaccination campaigns. Voluntary hunters distributed the vaccine baits by hand in their hunting preserves. The strategy of two vaccination campaigns per year, one in spring and one in autumn, was applied. From 1996 aerial distribution of the vaccine baits was selectively used on a restricted territory (4 - 6 districts). In the last years, the aerial vaccination was extended to 50% of the treated territory (29 districts) in 2002 (See Map). More than nineteen million of vaccine baits were used from 1989 till the autumn 2002.

Oral vaccination in 2000

1 706 000 Czech made SAD –Bern vaccine doses were distributed in 51 districts during spring and autumn campaigns in 2000.

The manual distribution of vaccine baits in density of 18 baits/km² was performed in 33 districts by voluntary hunters. Aerial distribution was extended into 18 highly affected districts in North, Central and South Bohemia using 25 vaccine doses per km².

Oral vaccination in 2001

The oral vaccination of foxes also has continued in 2001. 1 859 700 Czech made SAD – Bern vaccine doses (Lysvulpen) were distributed in 54 districts during spring and autumn campaigns.

The manual distribution of vaccine baits in density of 18 baits/km² was performed in 37 districts by voluntary hunters. Aerial distribution was applied in 17 highly affected districts in North, Central, East and South Bohemia using 25 vaccine doses per km².

Oral vaccination in 2002

The oral vaccination campaigns were carried out in April and October 2002. An area of 54 000 km² was treated with

2 348 300 vaccine baits. Hand distribution was practiced with a density of 18 baits/km², and the aerial distribution covered about 50% of the territory with a density of 25.1 doses/ km².

For details and the geographical localization of the vaccination areas see the Map.

2. Results of oral vaccination

Control examinations following bait distribution were directed at bait uptake, rabies diagnosis, tetracycline marking, characterization of virus strains and antibody formation.

The bait uptake was assessed by hunters on days 4, 8 and 14 after distribution and varied from 86.5% to 88.8% with an average value of 87.8%.

The minimum numbers of foxes for control examination were 8 foxes per 100 km² per year for each district. In the years 2001 and 2002, the density of foxes examined per 100 km² was 11.0 and 9.7 respectively.

Tetracycline was proved in the range of 75.9% to 80.1% of examined samples /average 78.0%.

Antibody formation was tested in the body fluids by RFFIT test. Specific rabies virus neutralizing antibodies were detected approximately in 70.0% of examined samples.

As recommended by WHO, after each campaign, wildlife specimens were collected within vaccination area for examination. 20 072 animals were examined for rabies during the last 5 campaigns. Rabies was found in 203 cases (1.0%). All isolates were street virus strains as was indicated by monoclonal antibodies.

Oral vaccination had an indisputably positive influence on the course of the rabies incidence. Considerable reduction of positive findings was noticed, from original 1501 cases in 1989 to 3 cases in 2002.

3. Present status of rabies

Rabies in 2000

7 798 animals belonging to 52 species were examined for rabies in the Czech Republic in 2000. Rabies was diagnosed in 165 cases, 49 less than in 1999. Wild animals participated by 156 cases on positive findings (94.5%) and domestic animals by 95 cases (5.5%). The highest incidence was registered in foxes - 142 cases (86.1%). The other animals involved were badger (7), roe-deer (6), marten (1), cat (3), dog (2), cattle (2) and sheep (2).

Rabies occurred in 22 districts. The majority of cases was recorded in the East Bohemia (74), followed by Central Bohemia (39), North Bohemia (31) and South Moravia (16).

Rabies in 2001

8 676 animals belonging to 45 species were examined for rabies in the Czech Republic in 2001. Rabies was diagnosed in 35 cases, 130 less than in 2000. This is a considerable reduction compared to the previous year. Wild animals participated by 33 cases on positive findings (94.3%) and domestic animals by 2 cases (5.7%). The highest incidence was registered in foxes - 29 cases (82.8%). The other animals involved were badger (1), roe-deer (1), marten (1), polecat (1) and domestic cat (2).

Rabies occurred in 7 districts. The majority of cases was recorded in the East Bohemia in the district Rychnov nad Kněžnou (21).

Rabies in 2002

In 2002, a total of 7 477 animals (5 812 foxes) were analyzed for rabies in our country. Only three rabies cases were diagnosed in foxes from district Trutnov in East Bohemia near to state border to Poland. One case occurred in February and 2 cases were diagnosed in April.

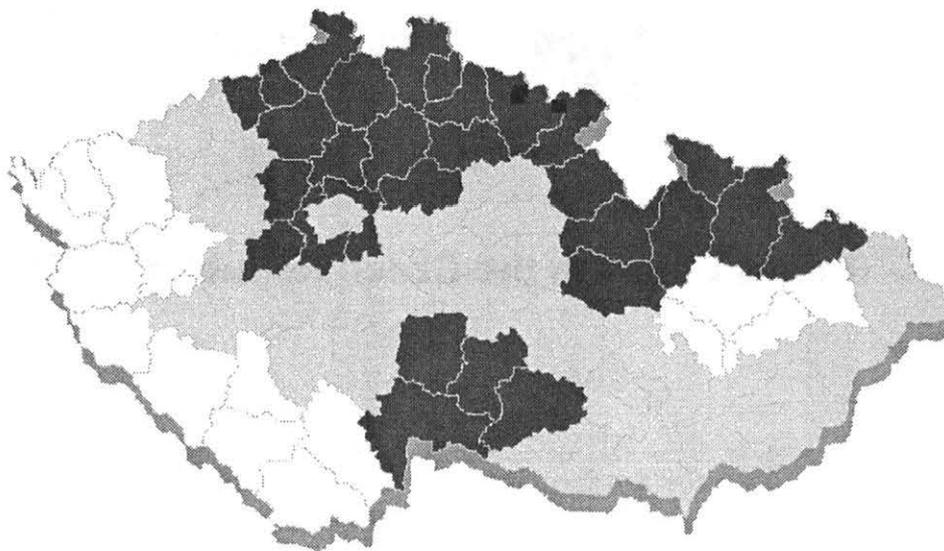
Since this time no rabies case was registered in the Czech Republic. This is considerable reduction compared to 2001, when 35 rabies cases were registered.

4. Planning for future

In the next years we intend to continue oral

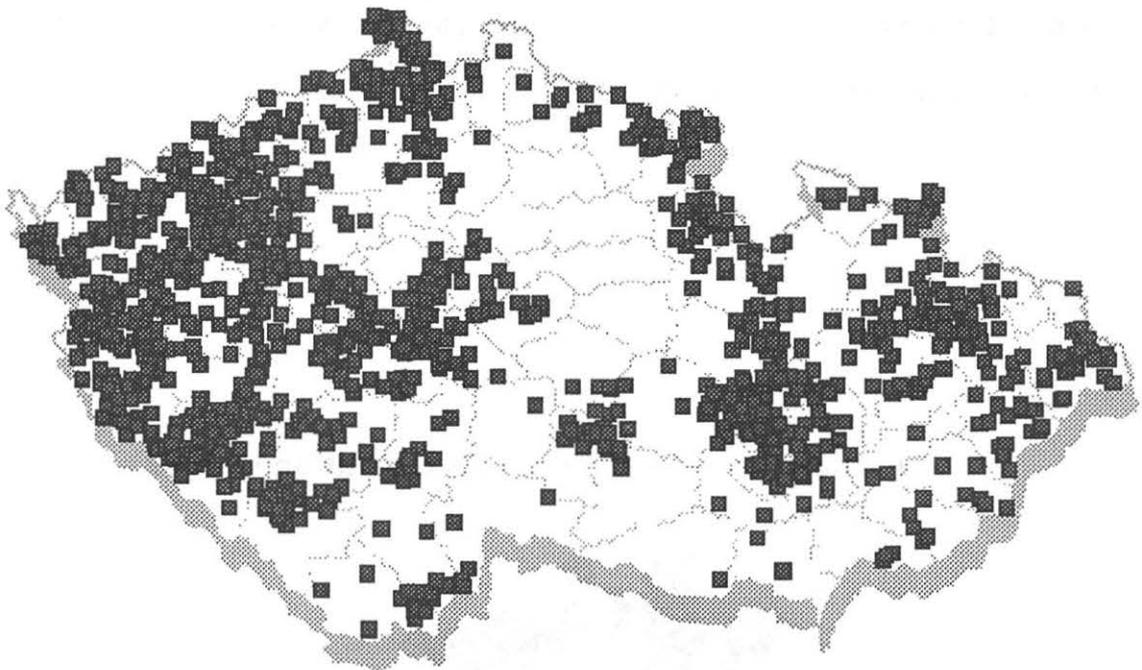
vaccination of foxes. Our effort will be aimed at an elimination of rabies in active foci and covering of border areas in cooperation with neighbouring countries. 2 500 000 vaccine doses should be distributed during the spring and autumn campaigns in 2003. The whole country will be covered by aerial distribution.

Rabies Cases and Area of Vaccination in 2002



- Rabies cases
- Aerial vaccination
- Manual vaccination

Rabies Cases in the Czech Republic in 1989



Rabies Cases in the Czech Republic in 2002



3.2 First Isolation of a European Bat Lyssavirus type-2a from a Human Case of Rabies-Encephalitis in the United Kingdom

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The United Kingdom is free from rabies with the last human death from indigenous rabies (RABV; classical rabies virus) recorded in 1902. Between 1977 and 2000, nine rabies deaths were imported to the UK (Müller, 2000). Two additional cases of rabies were reported from the UK in 2001, imported from the Philippines (Smith *et al.*, 2003) and Nigeria (Johnson *et al.*, 2002). These two cases highlight the need for rabies to be considered in the differential diagnosis of any human encephalitic illness presenting in an appropriate epidemiological context, especially if there was a reported history of an animal bite (Fooks *et al.*, 2003). In addition, a detailed history of recreational or occupational exposure to bats in the UK or abroad should be obtained, particularly if there was a history of a bat bite.

In the UK, bats found dead are submitted and tested at the Veterinary Laboratories Agency (VLA) under a programme of 'passive surveillance'. This work is undertaken in close collaboration with The UK Bat Conservation Trust. Between 1986 and 2002, only 2 of 3213 bats tested at the VLA have been confirmed positive. The first isolation of a lyssavirus from a bat in the UK was from a Daubenton's bat in 1996, this virus was subsequently characterised as a European bat lyssavirus (EBLV) type-2a (Whitby *et al.*, 2000). In September 2002, we reported a second case of EBLV type-2a in a Daubenton's bat from Lancashire (Johnson *et al.*, 2003). Daubenton's bats (*Myotis daubentonii*) are the third most common species in the UK with a population estimated at 150,000, but representing only 51 of those tested since 1986.

On the 11th November 2002, a 55-year-old

bat conservationist was admitted to Ninewells Hospital Dundee, Scotland with a rapidly progressive unexplained neurological illness. He presented with a 5-day history of pain and paraesthesia in the left arm followed by increasing weakness of his limbs with evidence of evolving encephalitis. Throughout 2002, he admitted to numerous exposures involving close handling of different species of bat and had been previously bitten by bats on some occasions while not wearing gloves. In September 2002, in Scotland, he was bitten on the ring finger of his left hand. The bat associated with this biting incident was considered to be a Daubenton's bat. The bat, however, was not retained for analysis and subsequently no accurate information on the exact identification of the species of bat has been possible. The source of infection was almost certainly to be from the UK, as the victim had never handled bats outside of Scotland except when he last travelled abroad to Papua New Guinea in 1995/96.

Using a hemi-nested reverse transcriptase-PCR, ante-mortem saliva samples proved positive for rabies. A 400 base -pair region of the nucleoprotein gene was sequenced and confirmed the presence of a European Bat Lyssavirus (EBLV) type-2a. On the 24th November 2002, thirteen days after admission to hospital, the patient died. Post-mortem diagnostic tests including the FAT, RTCIT and RT-PCR on three brain samples (cerebellum, medulla and hippocampus) were positive. An MIT was also performed. Clinical signs of a rabies-like illness developed in five inoculated mice (between 13 and 17 days post-infection). Brain smears from each infected animal were positive by the FAT and viable virus was isolated.

This fatal incident is only the second confirmed case of an EBLV type-2 infection in a human following exposure to bats. The only previously recorded case of an EBLV type-2 in a human patient was reported in 1985 (Lumio *et al.*, 1986; Roine *et al.*, 1988).

In light of the prevalence of EBLVs in bats throughout Europe (Müller, 2000), the risk of contracting a lyssavirus infection from a European bat must not be underestimated. All bat handlers should be encouraged to wear bite-proof gloves and to complete a course of rabies immunisations before handling bats. If an attack from a bat is unprovoked, the incident should be reported immediately. Bats however, are still persecuted by man and in many areas of the world are becoming an endangered species. Throughout Europe bats are afforded legal protection and are listed as 'European protected species' (European Union directive 92/43/EEC). In the UK, bats must not be killed or their roosts damaged (The Wildlife and Countryside Act, 1981).

In order to understand the true prevalence of EBLVs in British bats an 'active surveillance' programme (jointly funded by the UK Department for the Environment, Food and Rural Affairs and the Biotechnology and Biological Sciences Research Council) was initiated in 2002.

The recognised prevalence of EBLVs in Europe also re-emphasises the need for all individuals (including members of the general public) who are bitten by a bat in the course of either their recreational or occupational life to wash the bite site and seek immediate medical attention. Bats infected with EBLVs pose a significant but rare threat to public health.

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3.3 Summarizing the Rabies Situation in Europe 1990–2002 from the Rabies Bulletin Europe

by C. J. Pöttsch, Th. Müller and M. Kramer; Federal Research Centre for Virus Diseases of Animals,
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1. Description of the situation

The number of reported rabies cases in Europe has halved from 21,049 cases in 1990 to 10,051 in 2002 (Table 1). This great decrease has been achieved by the widespread use of oral vaccination of foxes (OVF) in Western and Central Europe (see 5. Control of terrestrial rabies). However, with the lowest figure reached in 1997 with 5,082 cases, the number of cases has again nearly doubled until 2002. The available data can not explain whether these developments were due to changing rabies incidence or changing case reporting. The political and economic development in Eastern Europe during this period may have contributed to changes in both the epidemiological rabies situation and disease surveillance. Thus, with these prevailing high figures, rabies continues to be a public health concern in many parts of Europe.

The spatial distribution of animal rabies cases in Europe in 2002 indicates that rabies mainly appears to occur in clusters in the Baltic States, the Russian Federation

and in South-Eastern Europe (see “Map of rabies cases in Europe”, this issue of the Rabies Bulletin Europe). The different distribution of cases between neighbouring countries, e.g. between Lithuania and Belarus or Croatia and Bosnia & Herzegovina, can probably be explained by different levels of rabies surveillance in these countries.

The comparison of the number of rabies cases in 2002 with the previous 10-years average (1992-2001) indicates a general decline of the number of rabies cases in Europe (Annex). All countries of Western and Central Europe, as well as some in Eastern Europe - namely the Czech and Slovak Republics, Poland, Slovenia, Hungary - have vastly reduced their numbers of rabies cases. On the other hand, the number of rabies cases has increased in other Eastern countries and many parts of Southern Europe. This increase in case reporting in these countries could, as mentioned above, indicate better rabies surveillance.

Table 1. Number of rabies cases in Europe (1990-2002) total and in wildlife, domestic animals, bats and humans

Year	Total	Wildlife	Domestic Animals	Bat	Human
1990	21049	15484	5503	40	22
1991	16505	12269	4194	15	27
1992	11080	8346	2705	14	15
1993	9385	6976	2381	18	10
1994	8823	6644	2160	8	11
1995	8140	5843	2274	7	16
1996	8087	5379	2677	16	15
1997	5082	3413	1626	25	18
1998	6253	3901	2313	32	7
1999	6597	4227	2317	42	11
2000	8155	5837	2276	33	9
2001	10435	6847	3537	39	12
2002	10051	6052	3967	25	7

* the figures presented may not always correspond to the RBE due to some cases being reported after publication

2. Rabies in wildlife

Between 60 and 75% of all rabies cases during 1990 to 2002 were found in wildlife (Table 1). The number of rabies cases in wildlife is presented in Table 2. The red fox - *Vulpes vulpes* (L.) - remained the main species of rabies transmission (Figure 1). This species accounted for 79 - 90% of all wildlife cases between 1990 and 2002.

The proportion of rabies cases among wildlife in an other species than fox has increased considerable in the past years. Rabies in racoon dogs - *Nyctereutes procyonoides* (Gray) - has increased by nearly 6-fold from 148 cases in 1990 to 873 reported cases in 2002 (Figure 2 and Table 2). Racoon dogs, a neozootic species to Europe, are thus the second most important wildlife species infected with rabies. As shown in Figure 3 most rabies cases in racoon dogs were reported from Poland and the Baltic states. This case distribution probably also reflects the distribution and

densities of racoon dog populations in parts of Europe.

Compared to the total of rabies cases in wildlife, racoon dogs also account for an increasing proportion of cases. In 1990 less than 1% of all wildlife cases were due to racoon dog rabies. 12 years later, in 2002, over 14% of wildlife cases occurred in racoon dogs (Figure 4). The role of racoon dogs in rabies epidemiology and transmission still needs to be investigated in more detail, in particular the issue of racoon dogs as a possibly independent wildlife rabies reservoir.

Other wildlife species, apart from foxes and racoon dogs, on average accounted for less than 5% of all wildlife rabies cases. However, certain species might have a local importance in rabies epidemiology. Of special concern are e.g. stable urban and silvatic populations of racoons in Europe and re-emerging species like wolves in rabies-free parts of Europe.

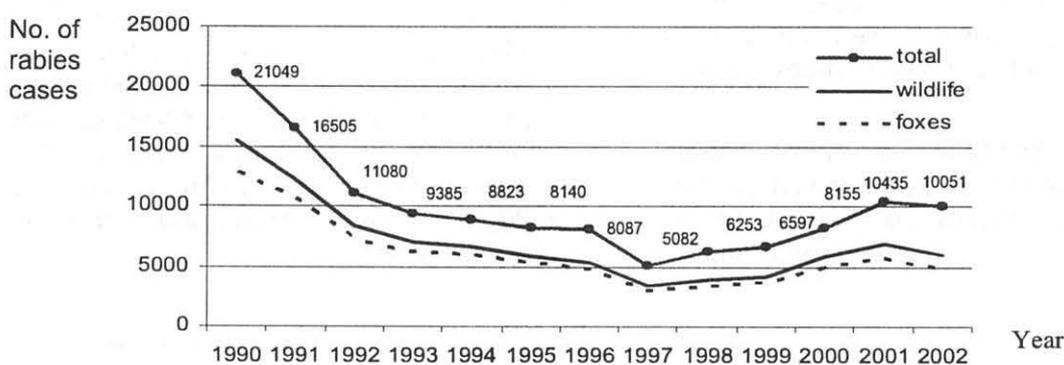


Figure 1. Number of rabies cases: total, in wildlife and in foxes in Europe (1990-2002)

	Year	Wildlife	Foxes	Racoon dogs
Table 2. Number of wildlife rabies cases in Europe (1990-2002) in all wildlife, foxes and racoon dogs	1990	15484	12833	148
	1991	12269	10637	226
	1992	8346	7318	302
	1993	6976	6197	290
	1994	6644	5966	183
	1995	5843	5294	162
	1996	5379	4814	181
	1997	3413	3019	176
	1998	3901	3380	272
	1999	4227	3630	436
	2000	5837	4896	622
	2001	6847	5724	683
	2002	6052	4795	873

No. of rabies cases in racoon dogs

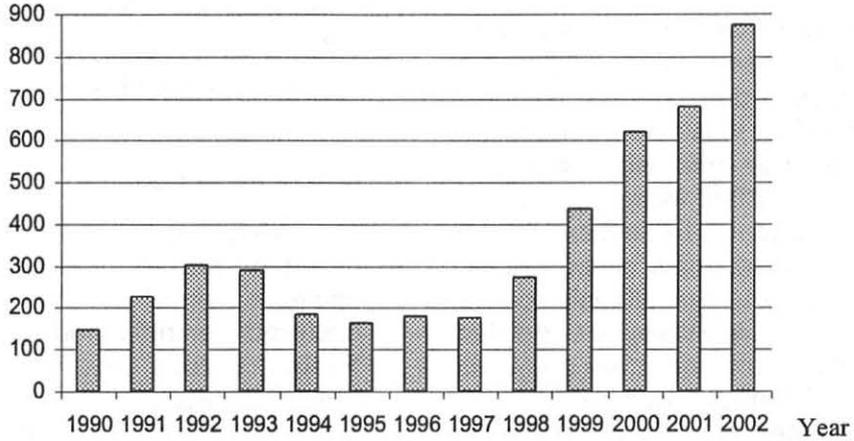


Figure 2. Number of racoon dog rabies cases per year in Europe 1990-2002, total number: 4,555 cases

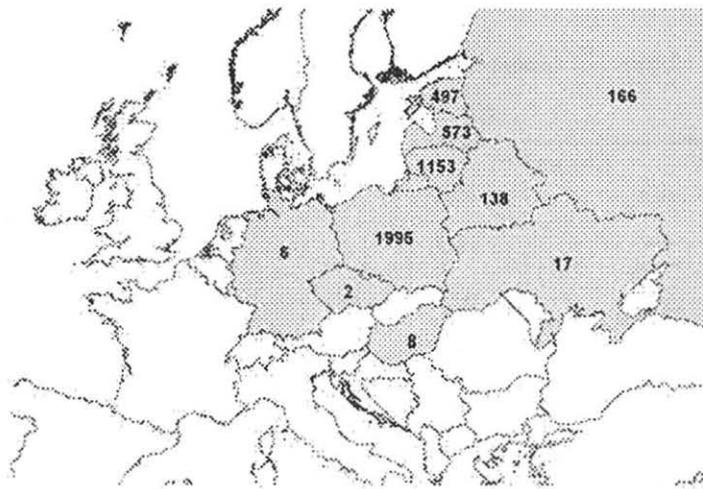


Figure 3. Number of racoon dog rabies cases per country in Europe 1990-2002; total number: 4,555 cases

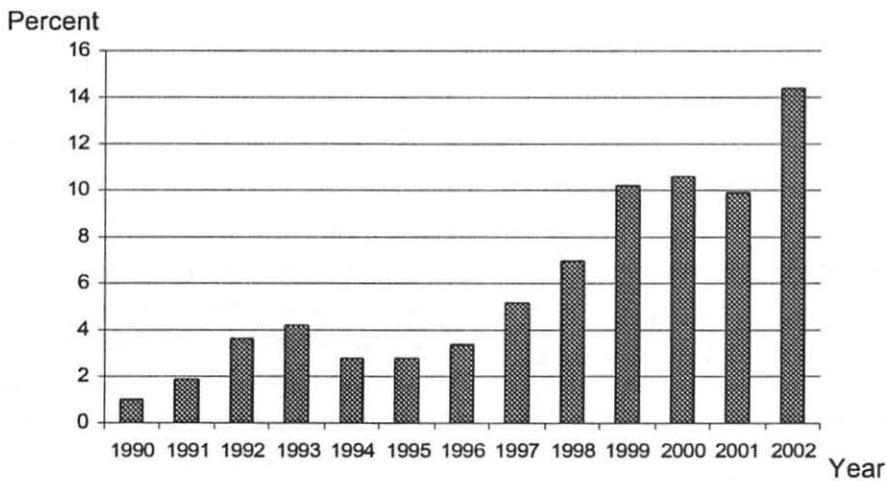


Figure 4. Percentage of racoon dog rabies compared to all wildlife rabies

3. Rabies in domestic animals

As presented in the table in the Annex (p. 17), with the decrease of rabies wildlife, the number of cases in domestic animals also decreased. The four most important groups of domestic animals affected with rabies between 1990 and 2002 were cattle, dogs, cats and sheep & goats (Table 3 and Figure 5). Other domestic animals accounted on average for less than 1% of all rabies cases in domestic animals. In Turkey, the Russian Federation and in Ukraine more domestic animals were diagnosed with rabies than wildlife. The domestic: wildlife ratios were 10:1, 1.7:1 and 1.4:1, respectively. In Turkey dog-mediated rabies is a major

problem. However, in the Russian Federation and Ukraine these ratios could indicate a main focus of rabies surveillance on domestic animals.

4. Rabies in humans

The annual number of human fatalities reported due to rabies in Europe was between 7 and 27 (Table 1). These cases occurred as indigenous cases mostly in Eastern Europe while cases in countries free of rabies were mostly imported. A detailed summary of the number of human rabies cases in Europe from 1977 to 2000 is listed in the RBE 4/2000 p. 19.

Table 3 and Figure 5. Number of rabies cases in dogs, cats, cattle and sheep and goats in 1990-2002

Table 3.

Year	Dogs	Cats	Cattle	Sheep & goats
1990	1282	1182	2014	864
1991	1099	847	1348	779
1992	780	622	919	315
1993	736	593	760	175
1994	609	572	752	171
1995	605	589	890	142
1996	905	593	890	176
1997	602	419	521	44
1998	777	577	774	111
1999	780	519	787	94
2000	779	593	782	52
2001	1012	1134	1211	89
2002	1099	1037	1520	216

No. of rabies cases

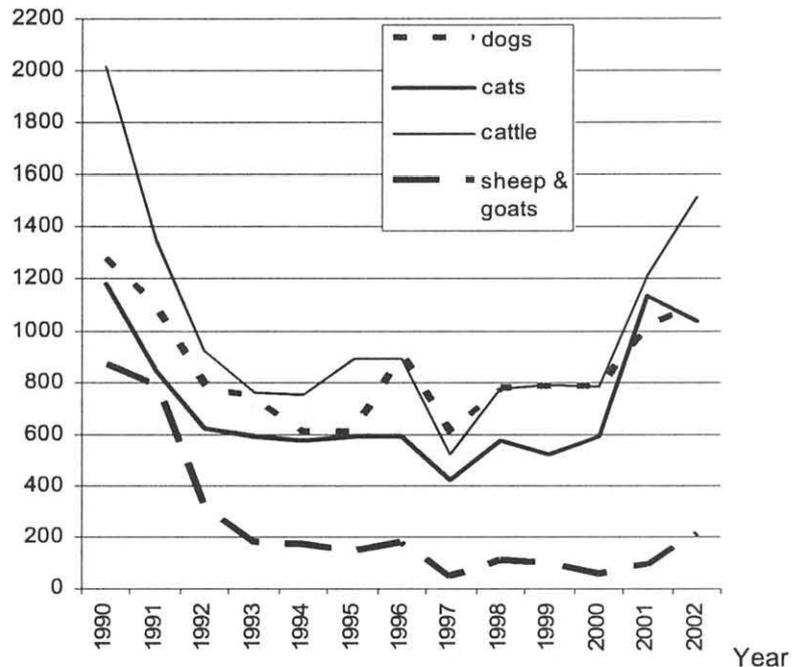


Figure 5.

5. Control of terrestrial rabies

Until 2002, the following countries have become rabies free according to the O.I.E. definition because of consequent oral vaccination of foxes (OVF) (year of acquiring the "rabies free" status in brackets): Finland (1991), Netherlands (1991), Italy (1997), Switzerland (1998), France (2000), Belgium (2001) and Luxembourg (2001). Differing to the WHO

definition, the O.I.E. definition of rabies-free status is not affected by the isolation of a European Bat Lyssavirus in a country.

A remarkable success in controlling wildlife rabies through OVF campaigns has also been achieved e.g. in the Czech Republic, Germany and Hungary. Here, the number of cases compared to a decade ago has been reduced by 99, 97 and 86%, respectively.

In 2002, 14 of 21 European countries with indigenous terrestrial rabies carried out OVF (Figure 6). Of these 14 countries, OVF is carried out in 6 countries on the basis of long-term, EU supported, national

eradication programmes. The remaining countries also used OVF but often lacked resources to carry out campaigns on a long-term basis and in large-enough areas.

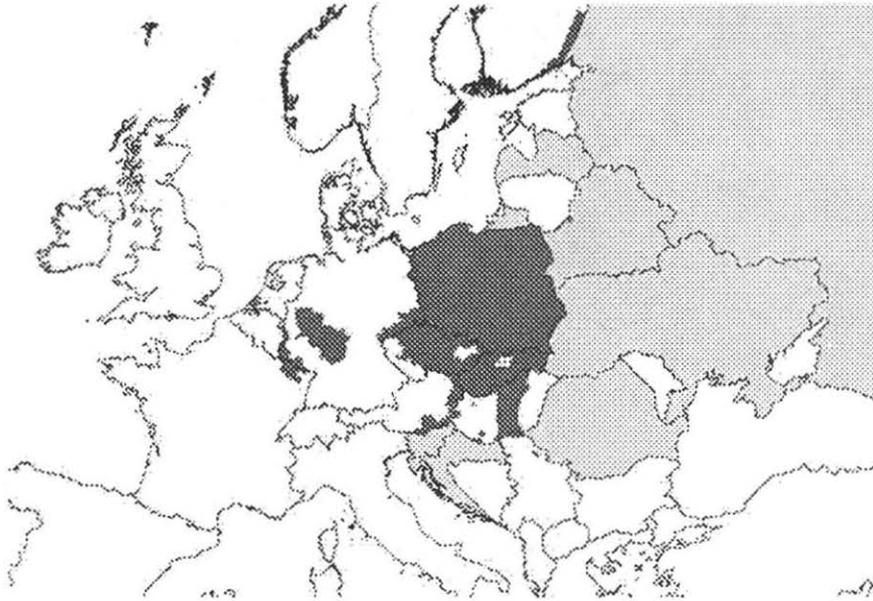


Figure 6. Oral vaccination of foxes in Europe in 2002, dark grey: vaccination areas, light grey: countries with oral vaccination of foxes, but unspecified vaccination areas

6. Bat rabies

A different epidemiological situation can be observed in bat rabies in Europe. Here two rabies-like viruses, different from the classical genotype 1 rabies virus, cause the infection. European Bat Lyssavirus (EBLV) type 1 and 2 occur in insectivorous bats. Between 7 and 42 rabid bats were reported annually between 1990 and 2002 (Figure 7). Figure 8 indicates that bat rabies is present

in most parts of Europe. Where bat rabies surveillance is sufficiently carried out, the disease can often be identified.

The species barrier to other mammals is rarely crossed; EBL rabies cases in terrestrial mammals have so far only been reported from 4 sheep in Denmark in 1998 and 2002 and a stone marten in Germany in 2001. In 2002, one fatal human EBL2 case occurred in Scotland (see Article 3.2).

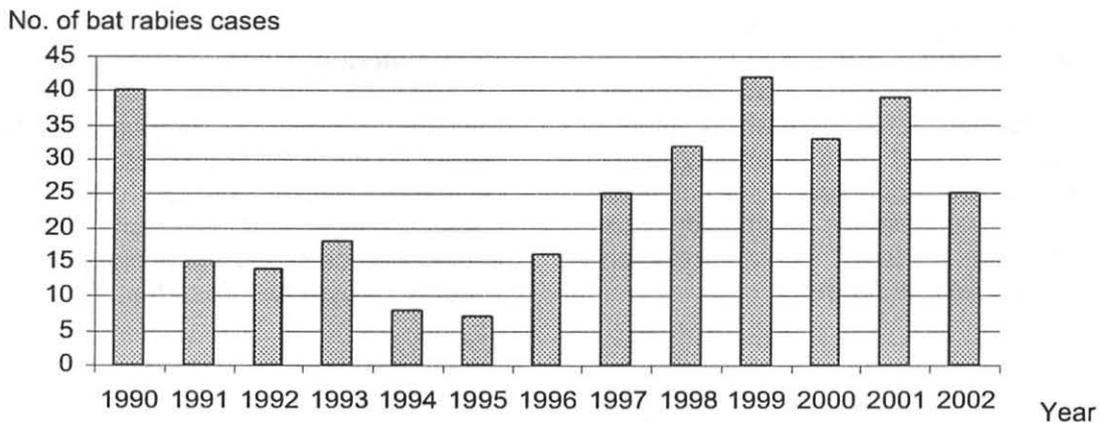


Figure 7. Number of bat rabies cases in Europe 1990-2002 (total number: 314 cases)

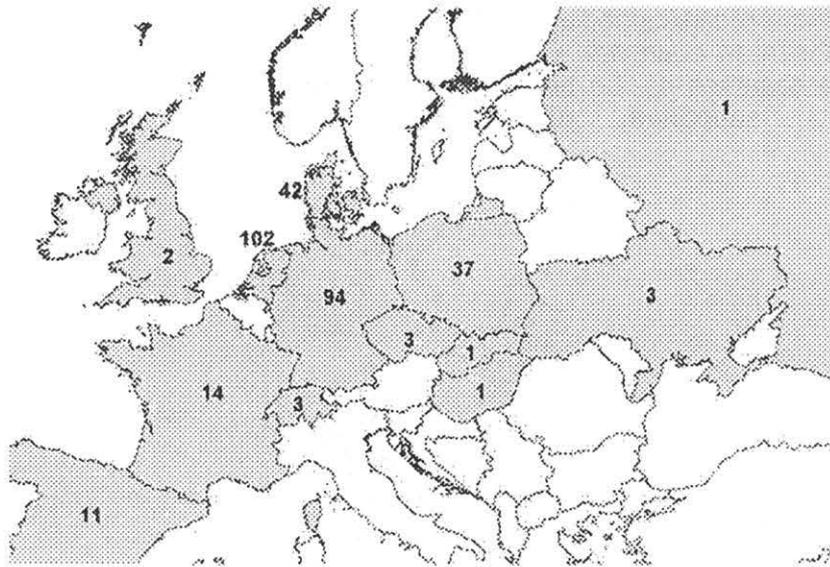


Figure 8. Number of bat rabies cases per country in Europe 1990-2002 (total number: 314 cases)

7. Conclusions

1. Rabies continues to be a public health concern as well as a problem of wildlife and domestic animal health in Europe. In some Eastern and large parts of Southern Europe terrestrial rabies is still present and case numbers reported are increasing. Here, the control of rabies through long-term national programmes coordinated across borders will be the only mean of tackling the problem. In Central, Western and some parts of Southern Europe, where terrestrial rabies is or will soon be eradicated, the safeguarding against re-infection as well as the public health concerns of bat rabies are the main emphases.
2. High quality surveillance is a prerequisite of rabies control and must accompany it. Therefore, rabies surveillance and data quality urgently need to be improved. Like control, rabies surveillance should be coordinated and communication improved across borders.
3. The red fox remains the main species of rabies transmission. However, more attention should be paid to the surveillance, control and research of rabies in bats and neozootic species like racoon dogs and racoons.
4. The oral vaccination of foxes to control wildlife rabies in Europe has until now been successful. Appropriate control strategies have to be identified for countries with high rabies occurrence and need to be adjusted to their epidemiological, financial and geographical conditions.

Acknowledgements

The author would like to greatly thank the former editor of the Rabies Bulletin Europe Dr. W.W. Müller and Dr. J.H. Cox for providing very comprehensive data and information on rabies in the Rabies Bulletin Europe for over two decades.

Annex: Comparison of the rabies cases of countries with reported rabies between the year 2002 with the previous-10-years average (1992-2001)

Countries	Rabies cases			Wildlife			Domestic animals			Bats		Remarks
	Total			No. 2002	Difference	in %	No. 2002	Difference	in %	No. 2002	Difference	
Albania	1	0.9	1000.0	1	1.0		0	-0.1		0	0.0	
Austria	24	-690.8	3.4	22	-658.4	3.2	2	-32.4	5.8	0	0.0	
Belgium	0	-53.8		0	-32.0		0	-21.8		0	0.0	
Bosnia and Hercegovina	52	21.0	167.7	42	16.0	161.5	10	5.0	200.0	0	0.0	years 2001-2002
Bulgaria	16	-5.5	74.4	16	-2.8	85.1	0	-2.6		0	0.0	
Belarus	809	649.4	506.9	580	480.0	580.0	229	169.6	385.2	0	0.0	years 1993-2002
Croatia	501	-25.2	95.2	475	-9.6	98.0	26	-15.6	62.5	0	0.0	
Czech Republic	3	-196.4	1.5	3	-187.7	1.6	0	-8.4		0	-0.3	years 1993-2001
Denmark	3	-1.3	69.8	0	0.0		1	0.7	333.3	2	-2.0	1 sheep with EBLV infection
Germany	43	-1390.6	3.0	33	-1132.8	2.8	2	-257.0	0.8	8	-0.6	
Estonia	422	293.3	327.9	355	261.6	380.1	67	31.7	189.8	0	0.0	
France	3	-683.9	0.4	0	-570.1		1	-114.3	0.9	2	0.8	
Fed.Rep.of Yugoslavia	217	101.4	187.7	181	95.8	212.4	36	5.6	118.4	0	0.0	
Hungary	160	-817.4	16.4	129	-647.3	16.6	31	-169.8	15.4	0	-0.1	
Italy	0	-15.7		0	-15.2		0	-0.4		0	0.0	
Lithuania	932	659.0	341.4	681	513.2	405.8	251	146.3	239.7	0	0.0	
Luxembourg	0	-11.9		0	-7.0		0	-4.9		0	0.0	
Latvia	500	248.2	198.6	411	223.0	218.6	89	25.3	139.7	0	0.0	
Makedonija												no data
Moldova	33	11.0	150.0	17	6.1	156.6	16	4.9	143.6	0	0.0	years 1995-2001
Netherlands	3	-7.0	30.0	0	-0.1		0	0.0		3	-6.9	
Norway	0	-0.2		0	-0.2		0	0.0		0	0.0	cases on Svalbard
Poland	1188	-1405.0	45.8	1030	-1100.9	48.3	153	-305.9	33.1	5	1.8	
Romania	115	20.1	121.2	70	16.9	131.8	45	3.3	107.9	0	0.0	
Russian Federation	3089	1096.0	155.0	1207	612.8	203.1	1876	485.6	134.9	1	1.0	
Spain	8	0.3	103.9	0	0.0		7	0.3	104.5	1	0.0	
Slovak Rep.	113	-251.1	31.0	94	-201.9	31.8	19	-49.1	27.9	0	-0.1	years 1993-2001
Slovenia	15	-305.8	4.7	15	-290.4	4.9	0	-15.4		0	0.0	
Switzerland/Lichtenstein	1	-67.7	1.5	0	-62.7		0	-5.8		1	0.8	
Turkey	249	-55.5	81.8	32	25.7	507.9	217	-81.2	72.8	0	0.0	
Ukraine	1549	-62.0	96.2	658	22.0	103.5	889	-84.0	91.4	1	-1.0	2001 only
United Kingdom	2	1.6	500.0	0	0.0		0	0.0		1	0.9	

No. 2002: number of cases in 2002

Difference: no. of cases in 2002 minus average no. of cases 1992-2001

in %: no. of cases in 2002 compared to average no. of cases 1992-2001 in percent

note: the numbers do not always correspond to the numbers presented in the RBE because of changes of administrative divisions since 1990
countries with no rabies cases between 1992 and 2002 are not included

4. PRESENTATION OF RABIES CASES IN EUROPE

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4.1 COUNTRY SUMMARIES OF RABIES CASES, 4th QUARTER 2002

01.10.02 -31.12.02

Location		Domestic animals									Wildlife														Human cases	total		
		dog	cat	cattle	equine	goat	sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer	fallow deer	other			bat	subtotal
Code	Name																											
ALB	ALBANIA	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
AUT	AUSTRIA	*								0																0		0
BEL	BELGIUM	*								0																0		0
BIH	BOSNIA A HERCEGOVINA	1	0	1	0	0	0	0	0	2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	14
BUL	BULGARIA	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	3
BLR	BELARUS	27	26	14	4	0	0	0	0	71	171	46	0	2	1	2	2	0	0	0	0	0	0	2	0	226	0	297
HRV	CROATIA	4	3	1	0	1	0	0	0	9	184	0	0	0	0	0	0	0	0	0	0	0	1	0	185	0	194	
CYP	CYPRUS	*								0															0		0	
CZH	CZECH REPUBLIC	*								0															0		0	
DNK	DENMARK	*								0															0		0	
EST	ESTONIA	9	8	5	1	0	0	0	0	23	42	100	0	0	1	2	1	0	0	0	0	0	0	0	146	0	169	
YUG	FED.REP. OF YUGOSL	3	5	1	0	4	0	0	0	13	72	0	0	0	0	0	0	0	0	0	0	0	1	0	73	0	86	
FIN	FINLAND	*								0															0		0	
FRA	FRANCE	*								0															0		0	
DEU	GERMANY	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	1	0	0	0	1	17	0	17	
GRC	GREECE	*								0															0		0	
HUN	HUNGARY	1	6	2	0	0	0	0	0	9	46	0	0	0	0	0	0	0	0	0	0	0	0	0	46	0	55	
IRE	IRELAND	*								0															0		0	
ISL	ICELAND	*								0															0		0	
ITA	ITALY	*								0															0		0	
LTU	LITHUANIA	14	33	66	4	4	0	1	0	122	73	113	0	0	1	30	4	2	0	0	0	0	1	0	224	0	346	
LUX	LUXEMBOURG	*								0															0		0	
LVA	LATVIA	9	11	14	2	0	0	0	0	36	68	63	0	0	3	3	0	2	0	1	0	0	1	0	141	0	177	
MDA	MOLDOVA	2	3	3	0	0	0	0	0	8	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	11	
MKD	MACEDONIA	**								0															0		0	
NED	NETHERLANDS	*								0															0		0	
NOR	NORWAY	*								0															0		0	
POL	POLAND	7	17	20	0	0	0	0	0	44	187	21	0	0	2	6	5	0	0	5	0	0	0	1	227	0	271	
PRT	PORTUGAL	*								0															0		0	
ROU	ROMANIA	1	2	1	2	0	0	0	0	6	13	0	0	0	0	0	1	0	0	0	0	0	1	0	15	0	21	
RUS	RUSSIAN FEDERATION	152	152	256	7	10	6	0	0	583	467	14	0	6	5	2	5	0	0	0	0	0	3	0	502	3	1088	
ESP	SPAIN	2	0	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
SVK	SLOVAK REPUBLIC	0	5	0	0	0	0	0	0	5	38	0	0	0	0	0	0	0	0	0	0	0	0	0	38	0	43	
SVN	SLOVENIA	0	0	0	0	0	0	0	0	0	8	0	0	0	1	0	0	0	0	0	0	0	0	0	9	0	9	
SWE	SWEDEN	*								0															0		0	
CHE	SWITZERLAND + LIEC.	*								0															0		0	
TUR	TURKEY	13	1	13	2	2	0	0	0	31	3	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0	35	
UNK	UNITED KINGDOM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
UKR	UKRAINE	69	133	121	6	8	1	0	0	338	291	6	11	2	1	4	2	0	0	1	0	0	4	0	322	1	661	
TOTAL		314	405	518	29	29	7	1	0	1303	1696	363	11	10	14	49	21	6	0	8	0	0	14	2	2194	5	3502	
PER CENT		9.0%	11.6%	14.8%	0.8%	0.8%	0.2%	0.0%	0.0%	37.2%	48.4%	10.4%	0.3%	0.3%	0.4%	1.4%	0.6%	0.2%	0.0%	0.2%	0.0%	0.0%	0.4%	0.1%	62.6%	0.1%	100%	

* NO CASES ** NO DATA

4.2 COUNTRY SUMMARIES OF RABIES CASES, CUMULATIVE 2002

01.01.02 -31.12.02

Location		Domestic animals									Wildlife														Human cases	total	
		dog	cat	cattle	equine	goat sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelids	other carnivores	wild boar	roe deer	red deer	fallow deer	other	bat			subtotal
Code	Name																										
ALB	ALBANIA	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
AUT	AUSTRIA	1	1	0	0	0	0	0	0	2	19	0	0	0	1	0	0	0	0	2	0	0	0	22	0	24	
BEL	BELGIUM	*								0													0		0		
BIH	BOSNIA A HERCEGOVINA	3	1	4	0	2	0	0	0	10	42	0	0	0	0	0	0	0	0	0	0	0	0	42	0	52	
BUL	BULGARIA	a)								0	3	0	0	0	0	0	1	0	0	0	0	12	0	16	0	16	
BLR	BELARUS	77	81	60	9	2	0	0	0	229	471	82	0	6	7	2	6	0	3	0	0	3	0	580	0	809	
HRV	CROATIA	7	8	2	0	8	1	0	0	26	468	0	0	0	1	0	2	0	0	2	0	0	2	0	475	0	501
CYP	CYPRUS	*								0													0		0		
CZH	CZECH REPUBLIC	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	
DNK	DENMARK	b)								1	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	3	
EST	ESTONIA	24	22	20	1	0	0	0	0	67	153	193	0	0	2	1	3	1	0	0	0	2	0	355	0	422	
YUG	YUGOSLAVIA	13	14	3	0	6	0	0	0	36	177	0	0	0	0	1	0	0	0	0	0	3	0	181	0	217	
FIN	FINLAND	*								0													0		0		
FRA	FRANCE	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	3	
DEU	GERMANY	1	1	0	0	0	0	0	0	2	24	0	0	0	0	0	3	0	0	6	0	0	0	8	41	0	43
GRC	GREECE	*								0													0		0		
HUN	HUNGARY	4	17	8	1	1	0	0	0	31	122	0	0	1	0	1	0	1	4	0	0	0	0	129	0	160	
IRE	IRELAND	*								0													0		0		
ISL	ICELAND	*								0													0		0		
ITA	ITALY	*								0													0		0		
LTU	LITHUANIA	46	70	120	6	7	0	2	0	251	271	316	0	1	6	30	51	2	0	2	0	2	0	681	0	932	
LUX	LUXEMBOURG	*								0													0		0		
LVA	LATVIA	31	32	22	4	0	0	0	0	89	247	134	0	1	11	3	10	2	0	1	0	0	2	0	411	0	500
MDA	MOLDOVA	3	6	5	0	2	0	0	0	16	16	0	0	0	0	0	0	0	0	0	0	1	0	17	0	33	
MKD	MACEDONIA	**								0													0		0		
NED	NETHERLANDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	3	
NOR	NORWAY	*								0													0		0		
POL	POLAND	31	69	53	0	0	0	0	0	153	882	95	0	0	8	6	27	0	1	10	0	0	1	5	1035	0	1188
PRT	PORTUGAL	*								0													0		0		
ROU	ROMANIA	18	10	6	2	8	0	0	1	45	62	0	0	0	2	0	3	0	0	0	0	3	0	70	0	115	
RUS	RUSSIAN FEDERATION	515	357	807	39	145	13	0	0	1876	1113	42	0	16	11	2	13	0	0	0	0	10	1	1208	5	3089	
ESP	SPAIN	4	0	0	1	0	0	2	0	7	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	8	
SVK	SLOVAK REPUBLIC	6	11	0	0	1	0	1	0	19	90	0	0	0	0	1	0	0	0	0	0	3	0	94	0	113	
SVN	SLOVENIA	0	0	0	0	0	0	0	0	0	14	0	0	0	1	0	0	0	0	0	0	0	0	15	0	15	
SWE	SWEDEN	*								0													0		0		
CHE	SWITZERLAND + LIEC.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	
TUR	TURKEY	75	1	129	2	10	0	0	0	217	24	0	0	2	0	1	2	0	0	0	0	3	0	32	0	249	
UNK	UNITED KINGDOM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	
UKR	UKRAINE	239	336	281	8	23	2	0	0	889	593	11	12	6	7	4	18	0	0	1	0	0	6	1	659	1	1549
TOTAL		1099	1037	1520	73	216	16	5	1	3967	4795	873	12	32	58	49	141	6	2	31	0	0	53	25	6077	7	10051
PER CENT		10.9%	10.3%	15.1%	0.7%	2.1%	0.2%	0.0%	0.0%	39.5%	47.7%	8.7%	0.1%	0.3%	0.6%	0.5%	1.4%	0.1%	0.0%	0.3%	0.0%	0.0%	0.5%	0.2%	60.5%	0.1%	100%

* NO CASES ** NO DATA a) fox rabies case reported for III / 2002 b) bat rabies case reported for III / 2002

4.3 RABIES CASES PER COUNTRY AND ADMINISTRATIVE UNITS, 4th QUARTER 2002

01.10.02 -31.12.02

Location Name	Domestic animals									Wildlife														Human cases	total			
	dog	cat	cattle	equine	goat sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer	fallow deer	other	bat			subtotal		
ALBANIA																												
Reg Shkoder	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
PER CENT	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%	
BELARUS																												
Brest	2	2	0	1	0	0	0	0	5	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	11	
Vitebsk	9	12	4	2	0	0	0	0	27	38	37	0	2	0	0	1	0	0	0	0	0	0	0	78	0	105		
Gomel	3	1	5	0	0	0	0	0	9	13	3	0	0	0	0	0	0	0	0	0	0	2	0	18	0	27		
Grodno	2	2	2	0	0	0	0	0	6	18	2	0	0	0	0	0	0	0	0	0	0	0	0	20	0	26		
Minsk	9	7	3	0	0	0	0	0	19	66	2	0	0	1	0	1	0	0	0	0	0	0	0	70	0	89		
Mogelov	2	2	0	1	0	0	0	0	5	30	2	0	0	0	2	0	0	0	0	0	0	0	0	34	0	39		
TOTAL	27	26	14	4	0	0	0	0	71	171	46	0	2	1	2	2	0	0	0	0	0	2	0	226	0	297		
PER CENT	9.1%	8.8%	4.7%	1.3%	0.0%	0.0%	0.0%	0.0%	23.9%	57.6%	15.5%	0.0%	0.7%	0.3%	0.7%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	76.1%	0.0%	100%		
BOSNIA AND HERZEGOVINA																												
Tuzla	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
Tuzla	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Una- Sana	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
Banja Luka	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5		
Derventa	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
Prnjavo	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2		
Doboj	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Modrica	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
K. Dubica	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
TOTAL	1	0	1	0	0	0	0	0	2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	14		
PER CENT	7.1%	0.0%	7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	14.3%	85.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	85.7%	0.0%	100%		
BULGARIA																												
Targovishte	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
Pleven	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
Lovech	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1		
TOTAL	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	3		
PER CENT	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	0.0%	100%		

4.3 RABIES CASES PER COUNTRY AND ADMINISTRATIVE UNITS, 4th QUARTER 2002 (continued)

01.10.02 -31.12.02

Location Name	Domestic animals										Wildlife														Human cases	total			
	dog	cat	cattle	equine	goat	sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer	fallow deer	other	bat			subtotal		
CROATIA																													
Zagrebacka	1	1	0	0	0	0	0	0	0	2	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0	25
Krapinsko-zagorska	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
Sisacko-moslavacka	0	0	0	0	0	0	0	0	0	0	51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51	0	51	
Karlovacka	0	1	0	0	0	0	0	0	0	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	16	
Koprivnicko-križevacka	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3		
Bjelovarsko-bilogorska	1	0	0	0	0	0	0	0	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	7	
Primorsko-goranska	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2		
Licko-senjska	1	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	6		
Virovitičko-podravska	1	0	0	0	1	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	5		
Požeško-slavonska	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	1	9	0	9		
Brodsko-posavska	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	15		
Zadarska	0	0	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	5		
Osječko-baranjska	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9		
Šibensko-Kninska	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6		
Vukovarsko-srijemska	0	1	0	0	0	0	0	0	0	1	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	11		
Šplitsko-dalmatinska	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7		
Istarska	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	16		
TOTAL	4	3	1	0	1	0	0	0	0	9	184	0	0	0	0	0	0	0	0	0	0	0	0	1	0	185	0	194	
PER CENT	2.1%	1.5%	0.5%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	4.6%	94.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	95%	0.0%	100%		
FEDERAL REPUBLIC OF GERMANY																													
Hessen	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	16	0	16	
Schleswig- Holstein	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1		
TOTAL	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	1	0	0	0	1	17	0	17	
PER CENT	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	88.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	0.0%	0.0%	0.0%	5.9%	100%	0.0%	100%	
MOLDOVA																													
Kichinev	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Edinets	0	1	2	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
Ohei	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2		
Soroca	2	1	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4		
Tighina	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
TOTAL	2	3	3	0	0	0	0	0	0	8	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	11		
PER CENT	18.2%	27.3%	27.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	72.7%	27.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	27%	0.0%	100%		

4.3 RABIES CASES PER COUNTRY AND ADMINISTRATIVE UNITS, 4th QUARTER 2002 (continued)

01.10.02 -31.12.02

Location Name	Domestic animals										Wildlife												Human cases	total			
	dog	cat	cattle	equine	goat sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer	fallow deer	other			bat	subtotal	
ESTONIA																											
Harjumaa	1	3	0	0	0	0	0	0	4	13	16	0	0	0	0	1	0	0	0	0	0	0	0	0	30	0	34
Järvamaa	1	2	2	0	0	0	0	0	5	1	24	0	0	0	1	1	0	0	0	0	0	0	0	27	0	32	
Jõgevamaa	0	0	0	0	0	0	0	0	0	2	5	0	0	0	0	1	0	0	0	0	0	0	8	0	8		
Läänemaa	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3	0	3		
Lääne-Virumaa	4	1	0	0	0	0	0	0	5	4	13	0	0	0	0	0	0	0	0	0	0	0	17	0	22		
Pärnumaa	0	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	6	0	6		
Põlvamaa	1	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	3	0	4		
Raplamaa	0	1	0	0	0	0	0	0	1	2	8	0	0	0	0	0	0	0	0	0	0	0	10	0	11		
Tartumaa	1	0	1	0	0	0	0	0	2	8	18	0	0	0	0	0	0	0	0	0	0	0	26	0	28		
Valgamaa	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4	0	4		
Viljandimaa	0	1	1	1	0	0	0	0	3	6	2	0	0	0	0	0	0	0	0	0	0	0	8	0	11		
Võrumaa	1	0	1	0	0	0	0	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	4	0	6		
TOTAL	9	8	5	1	0	0	0	0	23	42	100	0	0	0	1	2	1	0	0	0	0	0	0	146	0	169	
PER CENT	5.3%	4.7%	3.0%	0.6%	0.0%	0.0%	0.0%	0.0%	13.6%	24.9%	59.2%	0.0%	0.0%	0.0%	0.6%	1.2%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	86.4%	0.0%	100%	
HUNGARY																											
Bács-Kiskun	0	1	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	6	
Baranya	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3		
Békés	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5		
Borsod-Abaúj-Zemplén	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Csongrád	0	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	4		
Győr-Moson-Sopron	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
Hajdú-Bihar	0	0	2	0	0	0	0	0	2	8	0	0	0	0	0	0	0	0	0	0	0	0	8	0	10		
Heves	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
Jász-Nagykun-Szolnok	1	1	0	0	0	0	0	0	2	8	0	0	0	0	0	0	0	0	0	0	0	0	8	0	10		
Szabolcs-Szatmár-Bereg	0	1	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	5	0	6		
Vas	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7		
Veszprém	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
TOTAL	1	6	2	0	0	0	0	0	9	46	0	0	0	0	0	0	0	0	0	0	0	0	0	46	0	55	
PER CENT	1.8%	10.9%	3.6%	0.0%	0.0%	0.0%	0.0%	0.0%	16.4%	83.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	84%	0.0%	100%	
SLOVAKIA																											
Banskobystrický kraj	0	1	0	0	0	0	0	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	7	
Bratislavský kraj	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3		
Nitriansky kraj	0	3	0	0	0	0	0	0	3	21	0	0	0	0	0	0	0	0	0	0	0	0	21	0	24		
Trenciansky kraj	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3		
Trnavský kraj	0	1	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	5	0	6		
TOTAL	0	5	0	0	0	0	0	0	5	38	0	0	0	0	0	0	0	0	0	0	0	0	0	38	0	43	
PER CENT	0.0%	11.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.6%	88.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	88%	0.0%	100%	

4.3 RABIES CASES PER COUNTRY AND ADMINISTRATIVE UNITS, 4th QUARTER 2002 (continued)

01.10.02 -31.12.02

Location Name	Domestic animals										Wildlife												Human cases	total			
	dog	cat	cattle	equine	goat sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer	fallow deer	other			bat	subtotal	
LATVIA																											
Aluksne	1	0	1	0	0	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	0	7
Balvi	0	1	2	1	0	0	0	0	4	3	5	0	0	1	0	0	0	0	0	0	0	0	0	0	9	0	13
Bauska	0	1	1	0	0	0	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0	0	0	8	0	10	
Cesis	2	1	0	0	0	0	0	0	3	4	1	0	0	1	0	0	0	0	0	0	0	0	0	6	0	9	
Daugavpils	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	
Dobele	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	3	
Gulbene	0	0	0	0	0	0	0	0	0	10	7	0	0	0	0	0	0	0	0	0	0	0	0	17	0	17	
Jēkabpils	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Jelgava	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	2	
Krāslava	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	
Kuldīga	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	1	0	0	0	0	5	0	5	
Liepājas	1	1	1	0	0	0	0	0	3	4	2	0	0	1	0	0	0	0	0	0	0	0	0	7	0	10	
Limbaži	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	
Ludza	0	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	
Madona	2	0	0	0	0	0	0	0	2	13	6	0	0	0	0	0	0	0	0	0	0	0	19	0	21		
Ogre	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	
Preiļi	3	2	1	1	0	0	0	0	7	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4	0	11	
Rēzekne	0	1	6	0	0	0	0	0	7	4	6	0	0	0	0	0	0	0	0	0	0	0	0	10	0	17	
Rīga	0	2	0	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	5	
Saldus	0	1	0	0	0	0	0	0	1	4	1	0	0	0	1	0	0	0	0	0	0	0	6	0	7		
Tukums	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	
Valka	0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	5	0	5		
Valmiera	0	0	0	0	0	0	0	0	0	6	4	0	0	0	0	0	1	0	0	0	0	0	11	0	11		
Ventspils	0	1	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	
TOTAL	9	11	14	2	0	0	0	0	36	68	63	0	0	3	3	0	2	0	1	0	0	1	0	141	0	177	
PER CENT	5.1%	6.2%	7.9%	1.1%	0.0%	0.0%	0.0%	0.0%	20.3%	38.4%	35.6%	0.0%	0.0%	1.7%	1.7%	0.0%	1.1%	0.0%	0.6%	0.0%	0.0%	0.6%	0.0%	80%	0.0%	100%	
SLOVENIA																											
Gorenjska	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	
Spodnjeposavska	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8	
TOTAL	0	0	0	0	0	0	0	0	0	8	0	0	0	1	0	0	0	0	0	0	0	0	0	9	0	9	
PER CENT	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	88.9%	0.0%	0.0%	0.0%	11.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%	0.0%	100%	

4.3 RABIES CASES PER COUNTRY AND ADMINISTRATIVE UNITS, 4th QUARTER 2002 (continued)

01.10.02 -31.12.02

Location Name	Domestic animals									Wildlife													Human cases	total			
	dog	cat	cattle	equine	goat sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer	fallow deer	other			bat	subtotal	
YUGOSLAVIA																											
Novi Sad	2	0	0	0	1	0	0	0	3	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	16
Zrenjanin	0	0	1	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	4	
Sombor	0	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	4	
Požarevac	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2		
Jagodina	0	1	0	0	3	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	6		
Zaječar	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4		
Kraljevo	1	1	0	0	0	0	0	0	2	11	0	0	0	0	0	0	0	0	0	0	0	1	0	12	0	14	
Niš	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11		
Podgorica	0	1	0	0	0	0	0	0	1	24	0	0	0	0	0	0	0	0	0	0	0	0	24	0	25		
TOTAL	3	5	1	0	4	0	0	0	13	72	0	0	0	0	0	0	0	0	0	0	0	1	0	73	0	86	
PER CENT	3.5%	5.8%	1.2%	0.0%	4.7%	0.0%	0.0%	0.0%	15.1%	83.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	0.0%	84.9%	0.0%	100%	
TURKEY																											
Adana	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Aydın	2	0	7	0	1	0	0	0	10	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	11		
Istanbul	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
Izmir	2	0	2	0	1	0	0	0	5	1	0	0	0	0	1	0	0	0	0	0	0	0	2	0	7		
K.Maraş	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
Kocaeli	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Mardin	4	0	2	1	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7		
Muğla	0	0	2	1	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4		
TOTAL	13	1	13	2	2	0	0	0	31	3	0	0	0	0	1	0	0	0	0	0	0	0	4	0	35		
PER CENT	37.1%	2.9%	37.1%	5.7%	5.7%	0.0%	0.0%	0.0%	88.6%	8.6%	0.0%	0.0%	0.0%	0.0%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11%	0.0%	100%		
SPAIN																											
Melilla	2	0	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3		
TOTAL	2	0	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3		
PER CENT	67%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	100%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	0%	0.0%	100%		

4.3 RABIES CASES PER COUNTRY AND ADMINISTRATIVE UNITS, 4th QUARTER 2002 (continued)

01.10.02 -31.12.02

Location Name	Domestic animals										Wildlife												Human cases	total			
	dog	cat	cattle	equine	goat sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer	fallow deer	other			bat	subtotal	
RUSSIA																											
Astrahanskaja obl.	6	7	5	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Belgorodskaja obl.	10	18	13	0	0	0	0	0	41	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	0	68
Brjanskaja obl.	1	4	4	0	0	0	0	0	9	36	2	0	0	0	0	0	0	0	0	0	0	0	0	0	38	0	47
Cuvasskaja resp.	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
Dagestan resp.	3	0	3	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
Ivanovskaja obl.	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	
Kaliningradskaja obl.	0	2	1	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	5	
Kalmykija resp.	0	3	1	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	
Kaluzskaja obl.	4	8	0	0	0	0	0	0	12	28	2	0	0	0	0	0	0	0	0	0	0	0	0	30	0	42	
Krasnodarskij kr.	3	1	0	0	0	0	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	2	0	5	0	9	
Kurskaja obl.	17	23	80	2	0	1	0	0	123	95	1	0	0	2	0	0	0	0	0	0	0	0	0	98	3	224	
Lipeckaja obl.	8	5	18	0	2	0	0	0	33	58	0	0	0	0	0	0	0	0	0	0	0	0	0	58	0	91	
Marij El resp.	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Moskovskaja obl.	6	1	1	0	0	0	0	0	8	21	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	29	
Moskva g.	2	2	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Nizgorodskaja obl.	2	2	0	0	0	0	0	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	9	
Orlovskaja obl.	8	26	31	0	3	2	0	0	70	38	0	0	0	0	0	0	0	0	0	0	0	0	0	38	0	108	
Penzenskaja obl.	6	0	1	0	0	0	0	0	7	20	0	0	1	0	0	0	0	0	0	0	0	1	0	22	0	29	
Pskovskaja obl.	5	1	1	0	0	0	0	0	7	9	5	0	0	1	0	1	0	0	0	0	0	0	0	16	0	23	
Rjazanskaja obl.	4	1	0	0	0	0	0	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	8	
Rostovskaja obl.	5	5	4	0	1	0	0	0	15	3	0	0	2	0	0	0	0	0	0	0	0	0	0	5	0	20	
Saratovskaja obl.	7	13	12	1	0	1	0	0	34	37	0	0	0	0	0	0	0	0	0	0	0	0	0	37	0	71	
Severn. Osetija-Alanija resp.	5	1	0	0	0	2	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
Smolenskaja obl.	2	0	0	0	0	0	0	0	2	5	2	0	2	1	1	2	0	0	0	0	0	0	0	13	0	15	
Stavropol'skij kr.	4	4	0	0	1	0	0	0	9	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	11		
Tambovskaja obl.	5	3	3	0	1	0	0	0	12	20	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	32	
Tul'skaja obl.	9	5	14	0	1	0	0	0	29	14	0	0	0	1	1	1	0	0	0	0	0	0	0	17	0	46	
Tverskaja obl.	2	2	0	0	0	0	0	0	4	2	0	0	0	0	0	1	0	0	0	0	0	0	3	0	7		
Vladimirskaja obl.	1	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	4		
Volgogradskaja obl.	1	2	10	0	0	0	0	0	13	5	2	0	1	0	0	0	0	0	0	0	0	0	8	0	21		
Voronezskaja obl.	24	13	54	4	1	0	0	0	96	28	0	0	0	0	0	0	0	0	0	0	0	0	0	28	0	124	
TOTAL	152	152	256	7	10	6	0	0	583	467	14	0	6	5	2	5	0	0	0	0	0	3	0	502	3	1088	
PER CENT	14.0%	14.0%	23.5%	0.6%	0.9%	0.6%	0.0%	0.0%	53.6%	42.9%	1.3%	0.0%	0.6%	0.5%	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	46%	0.3%	100%	

4.3 RABIES CASES PER COUNTRY AND ADMINISTRATIVE UNITS, 4th QUARTER 2002 (continued)

01.10.02 -31.12.02

Location		Domestic animals									Wildlife													Human cases	total		
		dog	cat	cattle	equine	goat sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer	fallow deer	other			bat	subtotal
Code	Name																										
LITHUANIA																											
	Alytus	2	1	9	1	1	0	0	0	14	12	16	0	0	0	7	0	0	0	0	0	0	0	0	35	0	49
	Kaunas	0	5	4	0	0	0	0	0	9	7	21	0	0	0	5	0	0	0	0	0	0	0	0	33	0	42
	Klaipeda	1	6	5	0	1	0	0	0	13	10	12	0	0	0	1	0	0	0	0	0	0	0	0	23	0	36
	Marijampole	0	0	1	0	0	0	0	0	1	2	5	0	0	0	2	0	0	0	0	0	0	1	0	10	0	11
	Panvezys	3	3	8	0	0	0	0	0	14	8	12	0	0	1	3	0	2	0	0	0	0	0	0	26	0	40
	Šiauliai	0	6	16	0	0	0	1	0	23	11	10	0	0	0	7	3	0	0	0	0	0	0	0	31	0	54
	Taurage	1	6	14	2	2	0	0	0	25	5	8	0	0	0	2	1	0	0	0	0	0	0	0	16	0	41
	Telšiai	0	0	2	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4
	Utena	5	4	4	1	0	0	0	0	14	11	17	0	0	0	2	0	0	0	0	0	0	0	0	30	0	44
	Vilnius	2	2	3	0	0	0	0	0	7	6	11	0	0	0	1	0	0	0	0	0	0	0	0	18	0	25
TOTAL		14	33	66	4	4	0	1	0	122	73	113	0	0	1	30	4	2	0	0	0	0	1	0	224	0	346
PER CENT		4.0%	9.5%	19.1%	1.2%	1.2%	0.0%	0.3%	0.0%	35.3%	21.1%	32.7%	0.0%	0.0%	0.3%	8.7%	1.2%	0.6%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	65%	0.0%	100%
UKRAINE																											
	A.R. Krym	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	1	0	10	0	10
	Cherkasskaja o.	3	6	4	0	0	0	0	0	13	14	3	0	0	1	0	0	0	0	0	0	0	1	0	20	0	33
	Chernigovskaja o.	7	18	29	0	0	0	0	0	54	63	0	7	0	1	0	0	0	0	0	0	0	0	0	71	0	125
	Chernovitskaia o.	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
	Dnepropetrovskaja o.	0	5	2	0	0	0	0	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	9
	Donetskaja o.	0	0	0	0	0	0	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0	29
	Ivano-Frankovskaja o.	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
	Kharkovskaja o.	11	10	8	0	0	0	0	0	29	29	1	0	0	0	2	0	0	0	1	0	0	0	0	33	0	62
	Khersonskaja o.	1	4	1	0	1	0	0	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	8
	Khmelnitskaja o.	9	7	11	1	0	0	0	0	28	33	0	0	0	0	0	0	0	0	0	0	0	0	0	33	0	61
	Kievskaja o.	0	3	0	0	0	0	0	0	3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	9
	Kirovogradskaja o.	1	3	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5
	Luganskaja o.	8	9	17	0	1	1	0	0	36	9	0	1	1	0	0	0	0	0	0	0	0	0	0	11	1	48
	Lvovskaja o.	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
	Nikolayevskaja o.	2	4	2	0	0	0	0	0	8	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	12
	Odesskaja o.	4	4	1	2	0	0	0	0	11	13	0	0	0	0	0	0	0	0	0	0	0	1	0	14	0	25
	Poltavskaja o.	5	19	29	0	4	0	0	0	57	10	0	2	0	0	0	0	0	0	0	0	0	0	0	12	0	69
	Rovenskaja o.	2	1	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4
	Sumskaja o.	9	26	5	0	1	0	0	0	41	27	2	1	0	0	0	0	0	0	0	0	0	0	0	30	0	71
	Vinnitskaja o.	0	6	1	2	1	0	0	0	10	3	0	0	0	0	1	1	0	0	0	0	0	0	0	5	0	15
	Volynskaja o.	0	1	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4
	Zakarpatskaja o.	2	2	1	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	6
	Zaporozhskaja o.	0	3	6	0	0	0	0	0	9	8	0	0	1	0	0	0	0	0	0	0	0	1	0	10	0	19
	Zhitomirskaja o.	4	2	3	1	0	0	0	0	10	20	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	30
TOTAL		69	133	121	6	8	1	0	0	338	291	6	11	2	1	4	2	0	0	1	0	0	4	0	322	1	661
PER CENT		10.4%	20.1%	18.3%	0.9%	1.2%	0.2%	0.0%	0.0%	51.1%	44.0%	0.9%	1.7%	0.3%	0.2%	0.6%	0.3%	0.0%	0.0%	0.2%	0.0%	0.0%	0.6%	0.0%	49%	0.2%	100%

4.3 RABIES CASES PER COUNTRY AND ADMINISTRATIVE UNITS, 4th QUARTER 2002 (continued)

01.10.02 -31.12.02

Location Name	Domestic animals										Wildlife													Human cases	total		
	dog	cat	cattle	equine	goat sheep	pig	stray dog	other	subtotal	fox	raccoon dog	raccoon	wolf	badger	marten	other mustelides	other carnivores	wild boar	roe deer	red deer	fallow deer	other	bat			subtotal	
ROMANIA																											
Alba	1	0	0	1	0	0	0	0	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	4
Arges	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Caras Severin	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Cluj	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Gorj	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Harghita	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Hunedoara	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Mures	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6
Olt	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Sibu	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Suceava	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	
Valcea	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL	1	2	1	2	0	0	0	0	6	13	0	0	0	0	0	1	0	0	0	0	0	1	0	15	0	21	
PER CENT	4.8%	9.5%	4.8%	9.5%	0.0%	0.0%	0.0%	0.0%	28.6%	61.9%	0.0%	0.0%	0.0%	0.0%	0.0%	4.8%	0.0%	0.0%	0.0%	0.0%	0.0%	4.8%	0.0%	71%	0.0%	100%	
POLAND																											
Dolnoslaskie	0	0	0	0	0	0	0	0	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8
Kujawsko-Pomorskie	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
Lubelskie	1	5	0	0	0	0	0	0	6	28	1	0	0	0	1	0	0	0	1	0	0	0	0	0	31	0	37
Lubuskie	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Malopolskie	1	0	0	0	0	0	0	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	7
Mazowieckie	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Podkarpackie	0	2	0	0	0	0	0	0	2	29	0	0	0	0	0	2	0	0	1	0	0	0	0	0	32	0	34
Podlaskie	0	0	16	0	0	0	0	0	16	11	1	0	0	0	3	2	0	0	0	0	0	0	0	0	17	0	33
Pomorskie	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
Swietokrzyskie	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Warminsko-Mazurskie	1	1	4	0	0	0	0	0	6	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	13
Wielkopolskie	4	8	0	0	0	0	0	0	12	96	10	0	0	2	2	1	0	0	3	0	0	0	0	0	114	0	126
Zachodniopomorskie	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	
TOTAL	7	17	20	0	0	0	0	0	44	187	21	0	0	2	6	5	0	5	0	0	0	0	1	227	0	271	
PER CENT	2.6%	6.3%	7.4%	0.0%	0.0%	0.0%	0.0%	0.0%	16.2%	69.0%	7.7%	0.0%	0.0%	0.7%	2.2%	1.8%	0.0%	1.8%	0.0%	0.0%	0.0%	0.4%	84%	0.0%	100%		
UNITED KINGDOM																											
Scotland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
PER CENT	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%	0%	100%	100%		

4.4 TREND TABLES

4.4.1 Comparison of the reporting quarter (IV 2002) with the previous quarter (III 2002)

NAME	Total		Wildlife		Domestic animals		Bats		Human		Remarks
	No. IV 2002	Difference	No. IV 2002	Difference	No. IV 2002	Difference	No. IV 2002	Difference	No. IV 2002	Difference	
ALBANIA	1	1	1	1	0	0	0	0	0	0	
AUSTRIA	0	0	0	0	0	0	0	0	0	0	
BELGIUM	0	0	0	0	0	0	0	0	0	0	
BOSNIA A HERCEGOV	14	1	12	4	2	-3	0	0	0	0	
BULGARIA	3	-2	3	-2	0	0	0	0	0	0	
BELARUS	297	69	226	85	71	-16	0	0	0	0	
CROATIA	194	91	185	85	9	6	0	0	0	0	
CYPRUS	0	0	0	0	0	0	0	0	0	0	
CZECH REPUBLIC	0	0	0	0	0	0	0	0	0	0	
DENMARK	0	-1	0	0	0	0	0	-1	0	0	
GERMANY	17	13	16	16	0	0	1	-3	0	0	
ESTONIA	169	66	146	67	23	-1	0	0	0	0	
FINLAND	0	0	0	0	0	0	0	0	0	0	
FRANCE	0	-3	0	0	0	-1	0	-2	0	0	
FED.REP. OF YUGOSL	86	39	73	36	13	3	0	0	0	0	
GREECE	0	0	0	0	0	0	0	0	0	0	
HUNGARY	55	19	46	16	9	3	0	0	0	0	
ICELAND	0	0	0	0	0	0	0	0	0	0	
IRELAND	0	0	0	0	0	0	0	0	0	0	
ITALY	0	0	0	0	0	0	0	0	0	0	
LITHUANIA	346	111	224	44	122	67	0	0	0	0	
LUXEMBOURG	0	0	0	0	0	0	0	0	0	0	
LATVIA	177	68	141	54	36	14	0	0	0	0	
MACEDONIA											no data
MOLDOVA	11	3	3	-2	8	5	0	0	0	0	
NETHERLANDS	0	-3	0	0	0	0	0	-3	0	0	
NORWAY	0	0	0	0	0	0	0	0	0	0	
POLAND	271	72	227	74	43	-1	1	-2	0	0	
PORTUGAL	0	0	0	0	0	0	0	0	0	0	
ROMANIA	21	-3	15	-1	6	-2	0	0	0	0	
RUSSIAN FEDERATION	1088	452	502	223	583	227	0	0	3	2	
SPAIN	3	2	0	0	3	2	0	0	0	0	
SLOVAK REPUBLIC	43	22	38	22	5	0	0	0	0	0	
SLOVENIA	9	8	9	8	0	0	0	0	0	0	
SWEDEN	0	0	0	0	0	0	0	0	0	0	
SWITZERLAND/LIECHTEN.	0	-1	0	0	0	0	0	-1	0	0	
TURKEY	35	-26	4	-3	31	-23	0	0	0	0	
UKRAINE	661	348	322	203	338	145	0	-1	1	1	
UNITED KINGDOM	1	0	0	0	0	0	0	-1	1	1	
TOTAL	3502	1346	2193	930	1302	425	2	-14	5	4	

Wildlife: excluding bats

No. IV 2002: number of cases in IV 2002

Difference: no. of cases in IV 2002 minus cases in III 2002

4.4.2 Comparison of the reporting quarter (IV 2002) with the same quarter of the previous year (IV 2001)

NAME	Total		Wildlife		Domestic animals		Bats		Human		Remarks
	No. 2002	Difference	No. 2002	Difference	No. 2002	Difference	No. 2002	Difference	No. 2002	Difference	
ALBANIA	1	1	1	1	0	0	0	0	0	0	
AUSTRIA	0	-1	0	0	0	-1	0	0	0	0	
BELGIUM	0	0	0	0	0	0	0	0	0	0	
BOSNIA A HERCEGOV	14	2	12	2	2	0	0	0	0	0	
BULGARIA	3	-6	3	-6	0	0	0	0	0	0	
BELARUS	297	155	226	133	71	22	0	0	0	0	
CROATIA	194	74	185	75	9	-1	0	0	0	0	
CYPRUS	0	0	0	0	0	0	0	0	0	0	
CZECH REPUBLIC	0	-3	0	-3	0	0	0	0	0	0	
DENMARK	0	0	0	0	0	0	0	0	0	0	
GERMANY	17	10	16	11	0	0	1	-1	0	0	
ESTONIA	169	113	146	106	23	7	0	0	0	0	
FINLAND	0	0	0	0	0	0	0	0	0	0	
FRANCE	0	-1	0	0	0	0	0	-1	0	0	
FED.REP. OF YUGOSL	86	31	73	29	13	2	0	0	0	0	
GREECE	0	0	0	0	0	0	0	0	0	0	
HUNGARY	55	5	46	6	9	-1	0	0	0	0	
ICELAND	0	0	0	0	0	0	0	0	0	0	
IRELAND	0	0	0	0	0	0	0	0	0	0	
ITALY	0	0	0	0	0	0	0	0	0	0	
LITHUANIA	346	116	224	61	122	55	0	0	0	0	
LUXEMBOURG	0	0	0	0	0	0	0	0	0	0	
LATVIA	177	87	141	65	36	22	0	0	0	0	
MACEDONIA											no data
MOLDOVA	11	5	3	1	8	4	0	0	0	0	
NETHERLANDS	0	0	0	0	0	0	0	0	0	0	
NORWAY	0	0	0	0	0	0	0	0	0	0	
POLAND	271	-273	227	-238	43	-34	1	-1	0	0	
PORTUGAL	0	0	0	0	0	0	0	0	0	0	
ROMANIA	21	0	15	3	6	-3	0	0	0	0	
RUSSIAN FEDERATION	1088	330	502	277	583	52	0	0	3	1	
SPAIN	3	0	0	0	3	0	0	0	0	0	
SLOVAK REPUBLIC	43	14	38	14	5	0	0	0	0	0	
SLOVENIA	9	-25	9	-24	0	-1	0	0	0	0	
SWEDEN	0	0	0	0	0	0	0	0	0	0	
SWITZERLAND/LIECHTEN.	0	0	0	0	0	0	0	0	0	0	
TURKEY	35	4	4	0	31	4	0	0	0	0	
UKRAINE	661	661	322	322	338	338	0	0	1	1	
UNITED KINGDOM	1	1	0	0	0	0	0	0	1	1	
TOTAL	3502	1300	2193	835	1302	465	2	-3	5	3	

Wildlife: excluding bats

No. 2002: number of cases in IV 2002

Difference: no. of cases in IV 2002 minus cases in IV 2001

4.4.3 Comparison of the reporting year (2002) with the previous year (2001)

NAME	Total			Wildlife			Domestic animals			Bats		Human		Remarks
	No. 2002	Difference	in %	No. 2002	Difference	in %	No. 2002	Difference	in %	No. 2002	Difference	No. 2002	Difference	
ALBANIA	1	0	100.0	1	1		0	-1		0	0	0	0	
AUSTRIA	24	23	2400.0	22	22		2	1	200.0	0	0	0	0	
BELGIUM	0	0		0	0		0	0		0	0	0	0	
BOSNIA A HERCEGOV	52	21	167.7	42	16	161.5	10	5	200.0	0	0	0	0	
BULGARIA	16	-46	25.8	16	-46	25.8	0	0		0	0	0	0	
BELARUS	809	269	149.8	580	207	155.5	229	62	137.1	0	0	0	0	
CROATIA	501	12	102.5	475	19	104.2	26	-7	78.8	0	0	0	0	
CYPRUS	0	0		0	0		0	0		0	0	0	0	
CZECH REPUBLIC	3	-32	8.6	3	-30	9.1	0	-2		0	0	0	0	
DENMARK	3	1	150.0	0	0		1	1		2	0	0	0	
GERMANY	43	-7	86.0	33	-5	86.8	2	-1	66.7	8	-1	0	0	
ESTONIA	422	255	252.7	355	218	259.1	67	37	223.3	0	0	0	0	
FINLAND	0	0		0	0		0	0		0	0	0	0	
FRANCE	3	-1	75.0	0	0		1	0	100.0	2	1	0	0	
FED.REP. OF YUGOSL	217	-37	85.4	181	-11	94.3	36	-26	58.1	0	0	0	0	
GREECE	0	0		0	0		0	0		0	0	0	0	
HUNGARY	160	-150	51.6	129	-107	54.7	31	-43	41.9	0	0	0	0	
ICELAND	0	0		0	0		0	0		0	0	0	0	
IRELAND	0	0		0	0		0	0		0	0	0	0	
ITALY	0	0		0	0		0	0		0	0	0	0	
LITHUANIA	932	252	137.1	681	192	139.3	251	60	131.4	0	0	0	0	
LUXEMBOURG	0	0		0	0		0	0		0	0	0	0	
LATVIA	500	23	104.8	411	18	104.6	89	5	106.0	0	0	0	0	
MACEDONIA														no data
MOLDOVA	33	17	206.3	17	9	212.5	16	8	200.0	0	0	0	0	
NETHERLANDS	3	-6	33.3	0	0		0	0		3	-6	0	0	
NORWAY	0	0		0	0		0	0		0	0	0	0	
POLAND	1188	-1770	40.1	1032	-1534	40.2	152	-227	40.1	5	-9	0	0	
PORTUGAL	0	0		0	0		0	0		0	0	0	0	
ROMANIA	115	-271	29.8	70	-223	23.9	45	-48	48.4	0	0	0	0	
RUSSIAN FEDERATION	3089	1160	160.1	1207	513	173.9	1876	651	153.1	1	1	5	-5	
SPAIN	8	-2	80.0	0	0		7	-3	70.0	1	1	0	0	
SLOVAK REPUBLIC	113	26	129.9	94	19	125.3	19	7	158.3	0	0	0	0	
SLOVENIA	15	-120	11.1	15	-110	12.0	0	-10		0	0	0	0	
SWEDEN	0	0		0	0		0	0		0	0	0	0	
SWITZERLAND/LIECHTEN.	1	1		0	0		0	0		1	1	0	0	
TURKEY	249	60	131.7	32	16	200.0	217	44	125.4	0	0	0	0	
UKRAINE	1549	-62	96.2	658	22	103.5	889	-84	91.4	1	-1	1	1	
UNITED KINGDOM	2	0	100.0	0	0		0	0		1	1	1	-1	
TOTAL	10051	-384	4915.5	6054	-794	2086.1	3966	429	2230.0	25	-12	7	-5	

Wildlife: excluding bats

No. 2002: number of cases in 2002

Difference: no. of cases in 2002 minus cases in 2001

in %: no. of cases in 2002 compared to 2001 in percent

4.4.4 Comparison of the reporting year (2002) with the previous-10-years average (1992-2001)

see article 3.3, in Annex

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