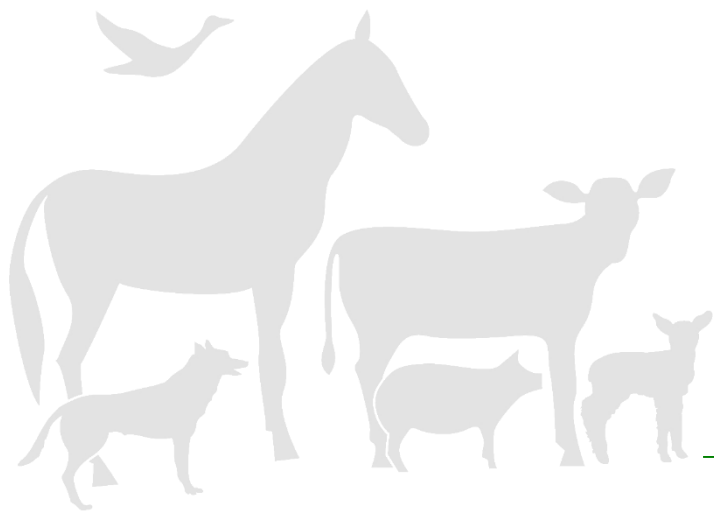
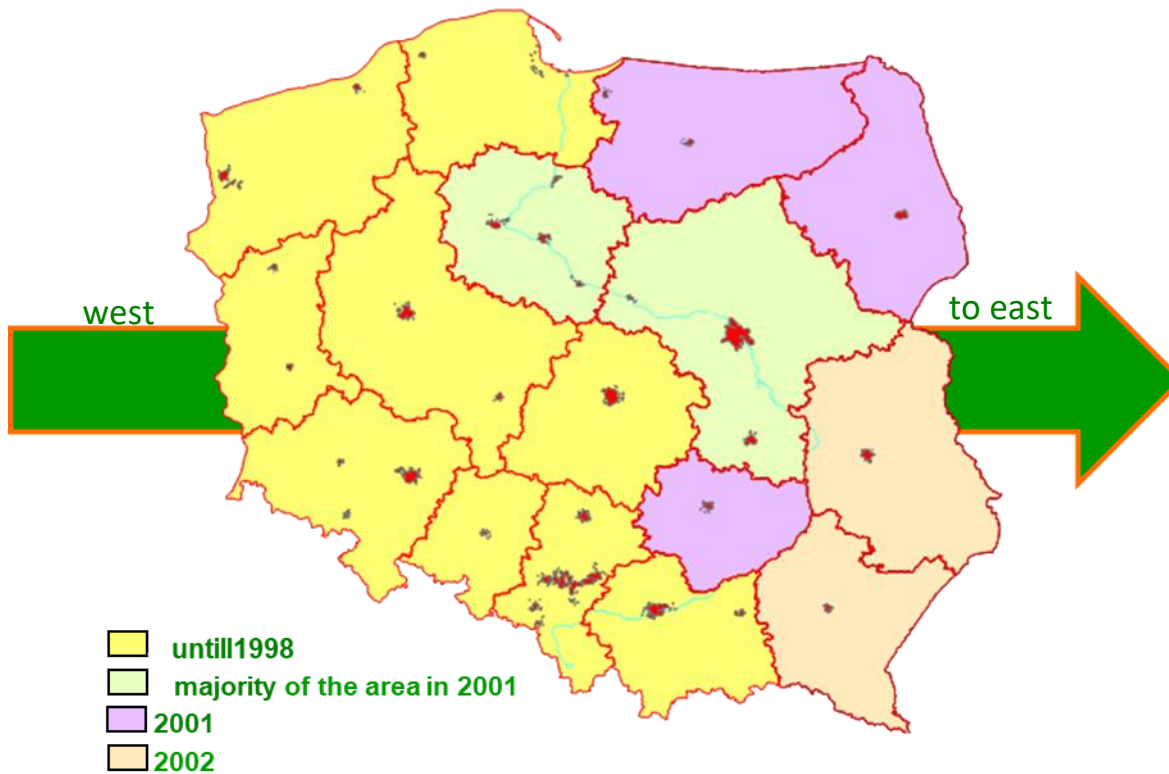


Re-emergency of rabies in Mazowieckie region, Poland, 2021



MARCIN SMRECZAK
VIROLOGY DEPARTMENT
NRL for RABIES

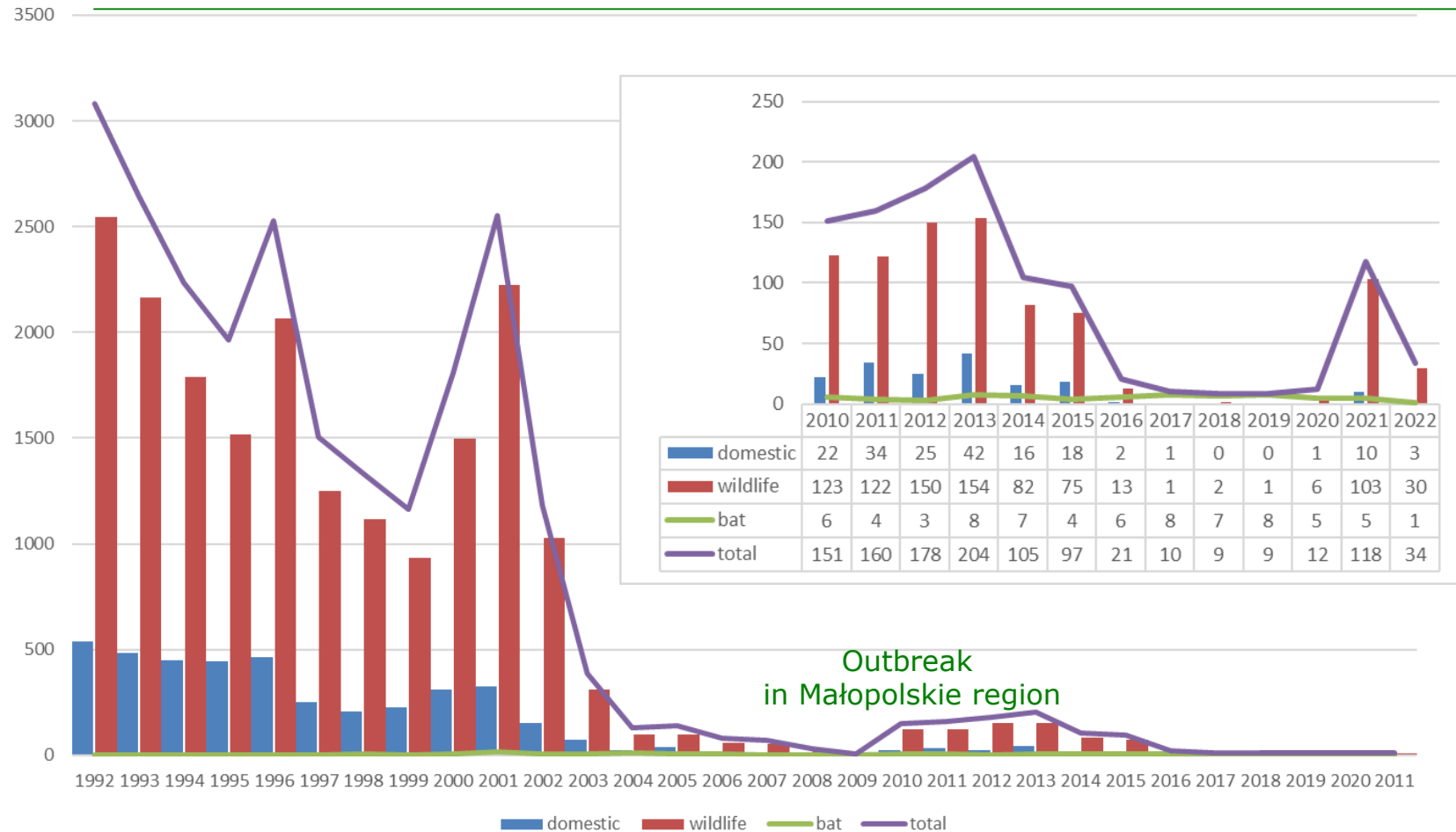
ORV in Poland



ORV was introduced in Poland in 1993 using oral vaccines Fuchsoral and Lysvulpen. The vaccines are distributed from airplanes and also manually. The vaccination started in the western regions of Poland and was extended in the eastern direction.



The effect of ORV on the epizootic situation of rabies in Poland

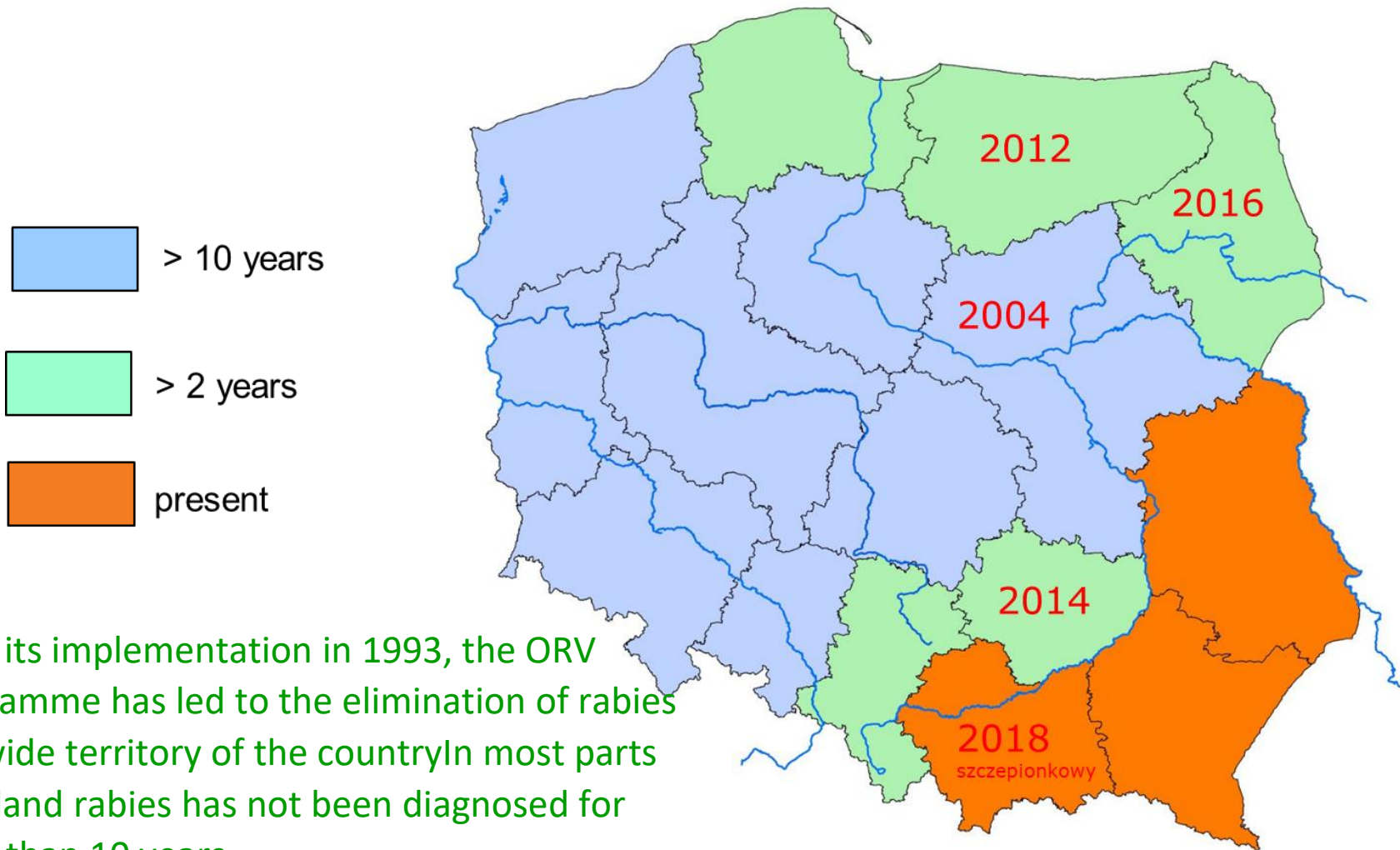


Outbreak
in Małopolskie region

Following the introduction of ORVs, a decrease in the number of rabies cases was observed with an outbreak of rabies epizootics in 2010

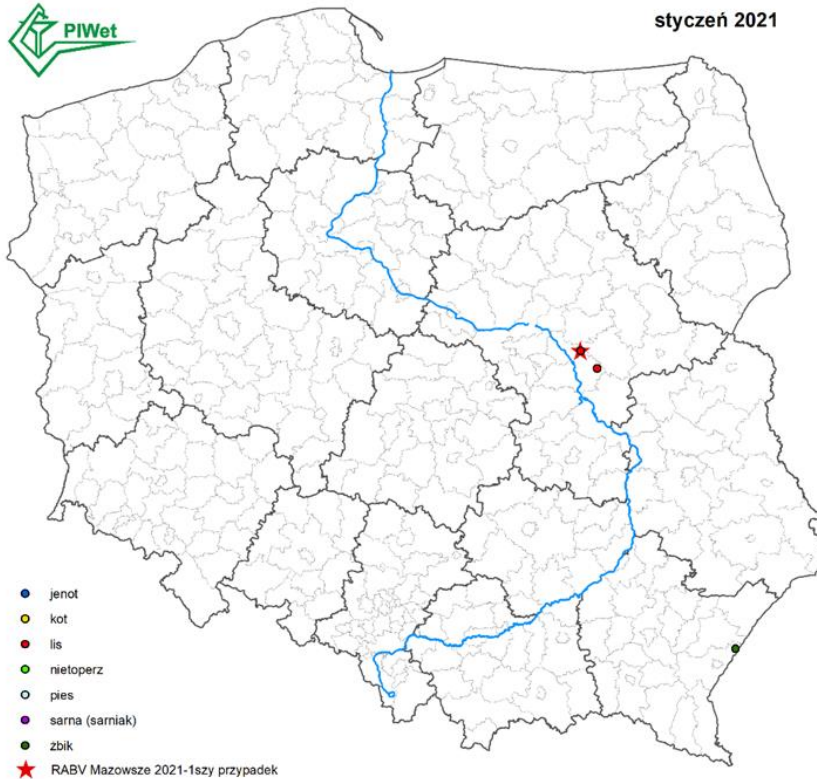


Rabies-free regions before rabies outbreak



Since its implementation in 1993, the ORV programme has led to the elimination of rabies in a wide territory of the country. In most parts of Poland rabies has not been diagnosed for more than 10 years.

1st outbreak of rabies in 2021

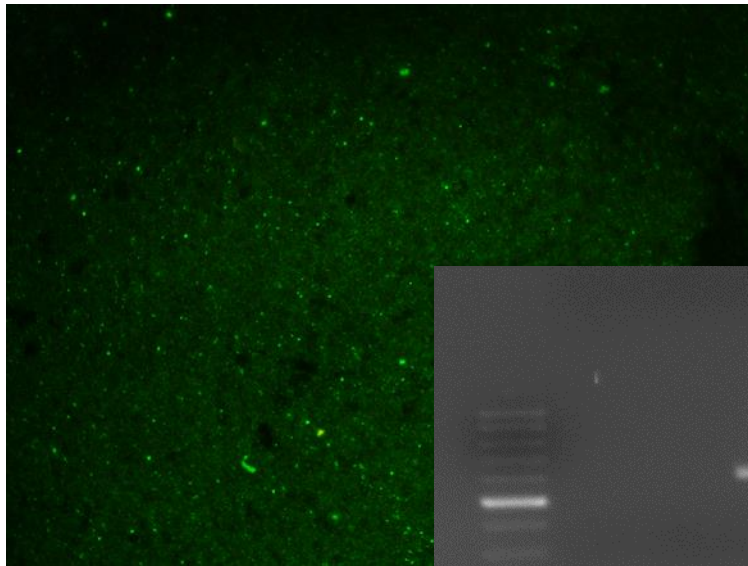


On 3rd January 2021 a sick fox entered the farm yard in the municipality Izabela (county Otwock) where it was attacked and fatally bitten by a dog. the reemergence of rabies after a 17-year absence in Mazowieckie voivodeship outside the 100 km deep vaccination belt and its rapid spread were completely unexpected.

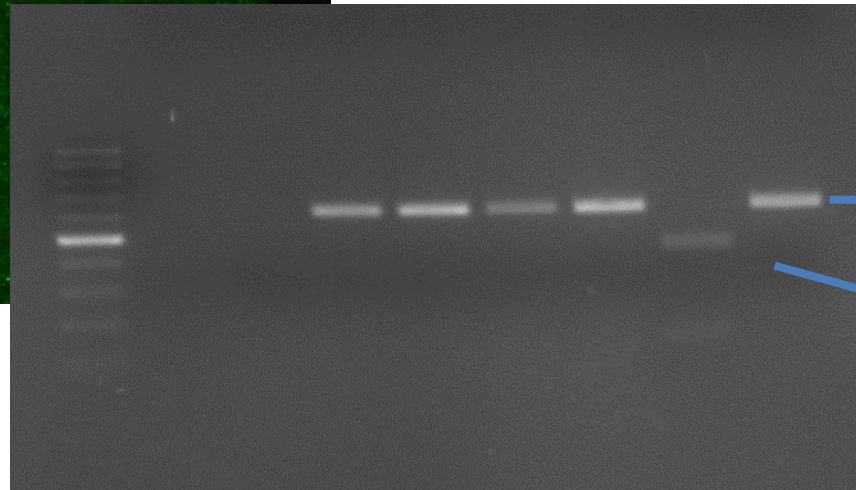


~ 130 km from the eastern border of the country
~ 200 km from the nearest recent case of rabies

Rabies diagnosis and strain differentiation



Immunofluorescence



Field strain

Vaccine strain

The fox carcass was sent to the Regional Laboratory at Warsaw for testing as part of rabies surveillance and viral antigen was detected in the brain specimen of the fox using the fluorescent antibody test .

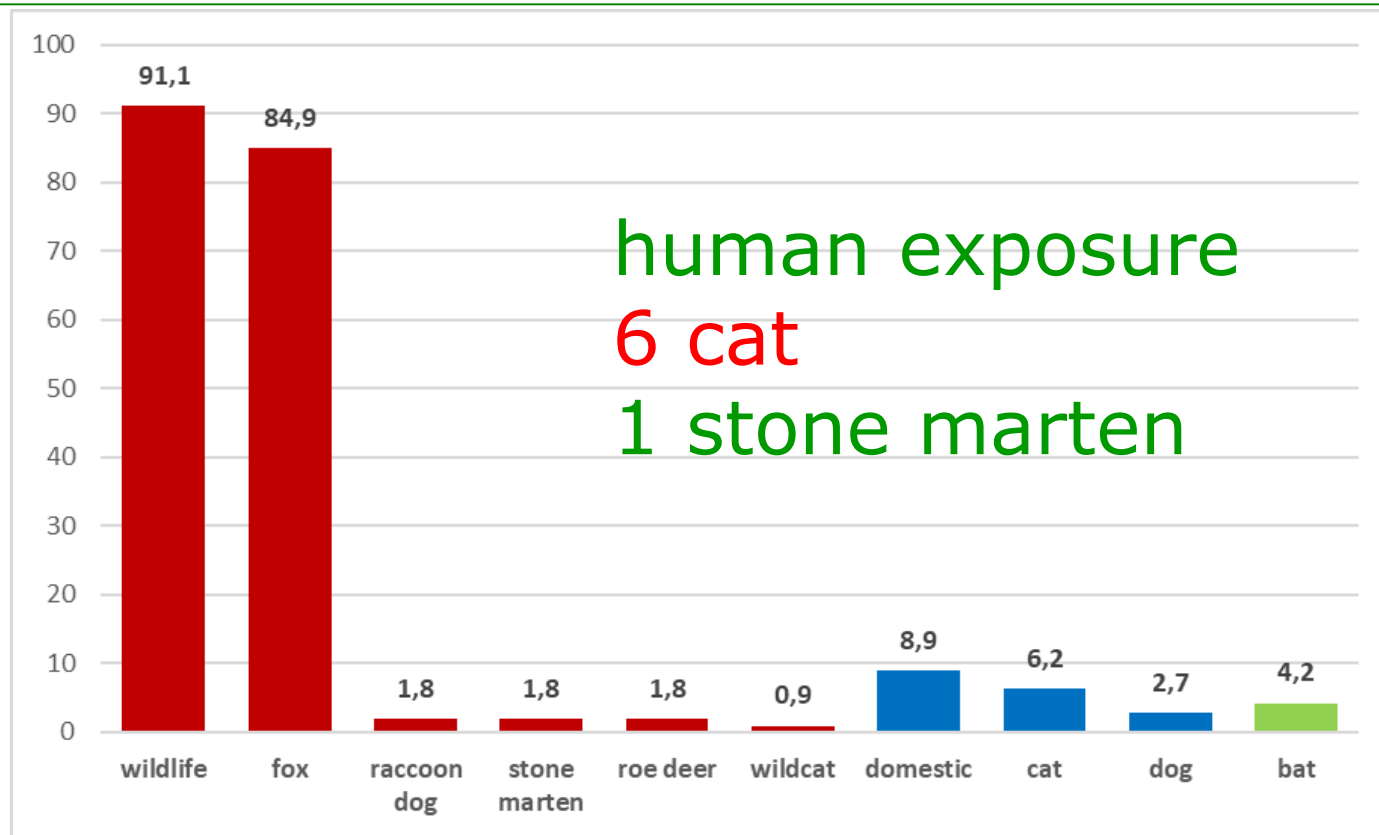
The result was confirmed by the National Reference Laboratory for Rabies PCR-RFLP showed that all rabies cases were caused by the RABV field strain.

Rabies cases from January 2021 to December 2021 in Poland

Voivodeship	District	fox	dog	cat	stone marten	wildcat	raccoon dog	roe deer	No cases	bat	Total
Mazowieckie	Garwolin	14		1			1		16		16
	Kozienice	1	1						2	1	3
	Mińsk Mazowiecki	5		1					6		6
	Otwock	46	1		2			1	50		50
	Radom	7	1	3					11		11
	Warszawa	15		1			1	1	18		18
	Wołomin	1		1					2		2
Podkarpackie	Zwoleń	4							1		1
	Lubaczów	1							1		1
Świętokrzyskie	Przemyśl					1					
	Sandomierz	1							1		1
Warmińsko-Mazurskie	Skarżysko-Kamienna	1							1		1
	Ostróda									1	1
Wielkopolskie	Ostróda									2	2
	Poznań									1	1
TOTAL		96	3	7	2	1	2	2	113	5	118

The highest number of cases was recorded in Mazowieckie Voivodeship in the districts of Otwock, Warsaw and Garwolin.

Prevalence of lyssavirus infection in different animal species

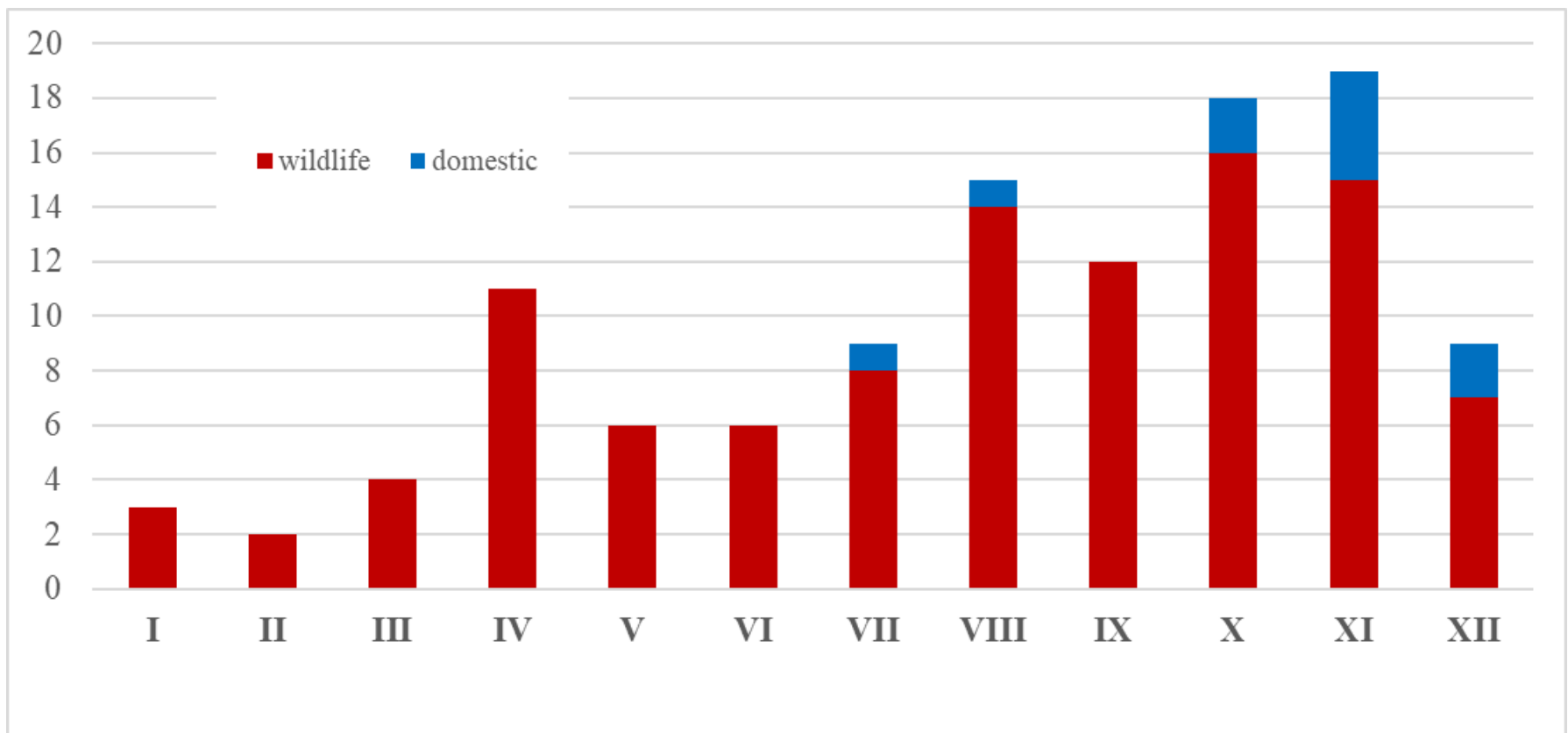


In Poland in 2021 **91.1%** cases were recorded in wildlife and **8.85%** cases were recorded in domestic animals.

The highest number of rabies cases (**84.9%**) were recorded in the red fox. Other animal species, both wildlife and domestic, accounted a small percentage of all diagnosed cases of the disease

We also diagnosed 5 lyssavirus (EBLV-1) infections in bats in different regions of Poland, which accounted for **4.24%** of all identified lyssavirus infections in 2021.

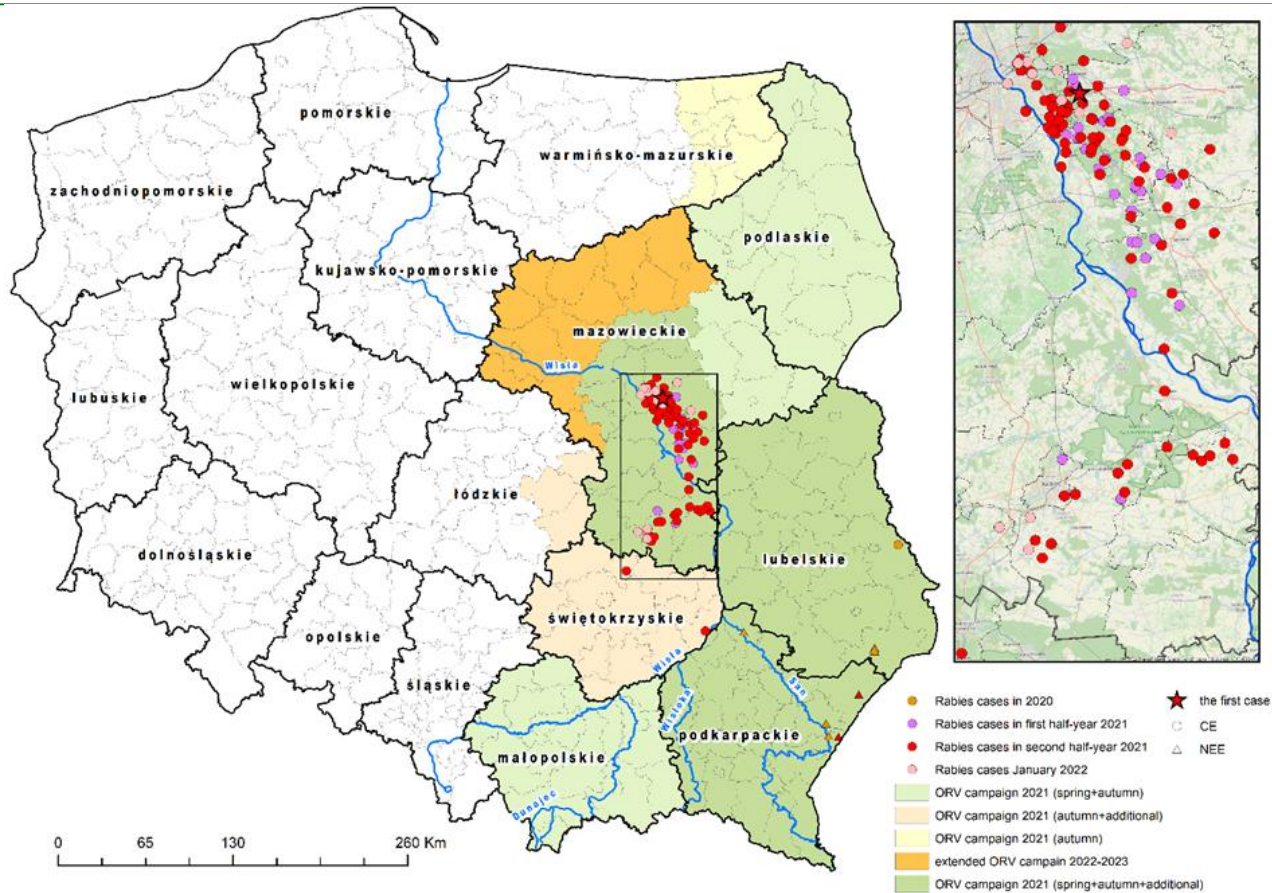
Number of rabies cases in subsequent months 2021



The highest number of cases of the disease among both wildlife and domestic animals were registered in November (**16.8%**) and October (**15.9%**).

In the second half of the year, a total of 81 rabies cases were registered, accounting for **71.68%** of the number of all diagnosed cases during the year while in the **first 6 months of 2021**, a total of 32 cases were registered, accounting for **28.32%** of all animal cases.

Distribution of Rabies cases 2021 and ORV campaigns



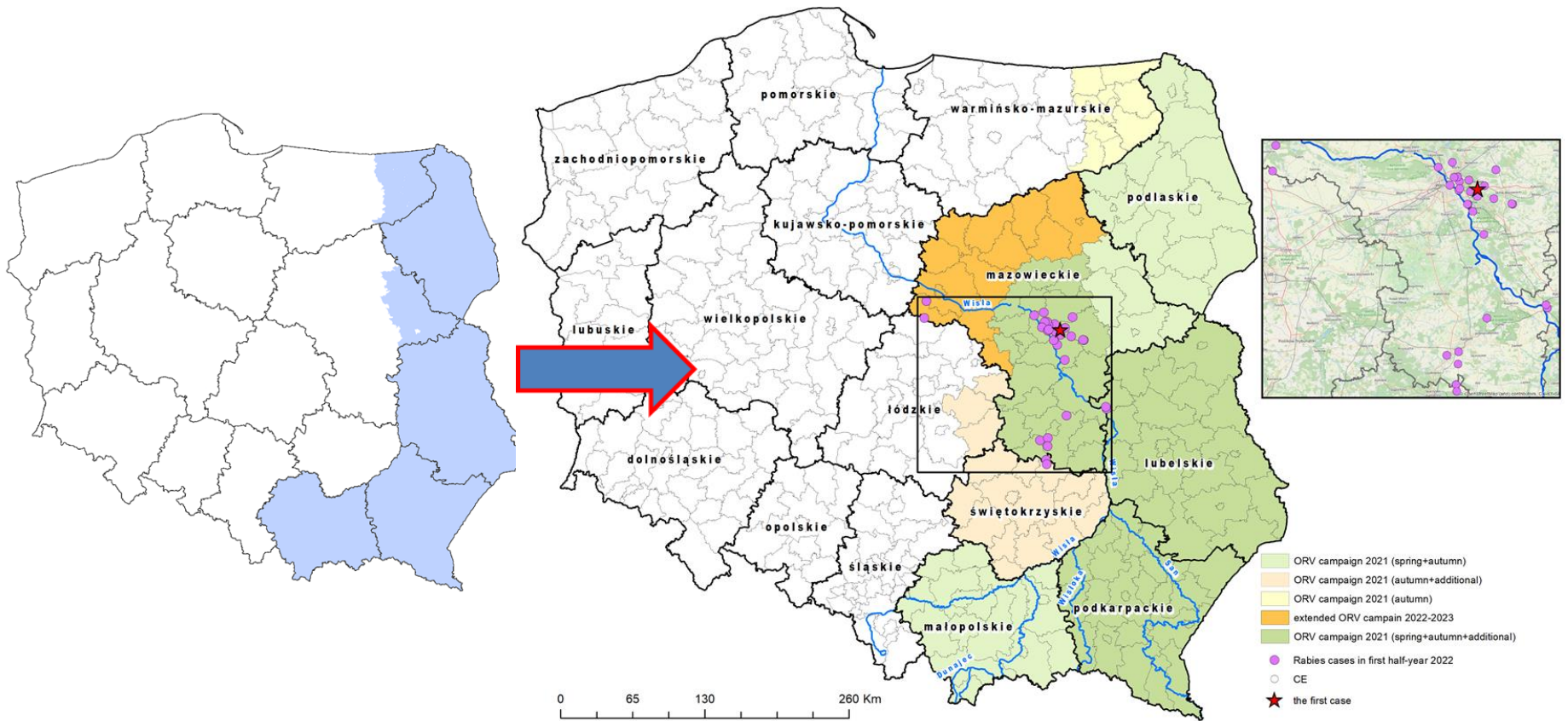
Since the detection of the index case in the central part of Mazowieckie voivodship, fox mediated rabies cases increased and the disease inexorably spread southward crossing the Vistula river reaching the voivodship of Świętokrzyskie in November 2021

Response to the outbreak of rabies of Veterinary

Inspection

In response to the outbreak of rabies in the Mazowieckie and Świętokrzyskie voivodeships, a number of ad hoc veterinary public health measures were implemented to cope with the situation. These measures included

- ✓ immediate issuing of rabies alerts to local veterinary, public health and other competent authorities,
- ✓ public awareness and education campaigns,
- ✓ enhancement of rabies surveillance in the outbreak and neighbouring areas,
- ✓ temporary ban on hunting of all game,
- ✓ obligation for dogs to be kept on a leash or in a fenced yard, and - prohibition of pet animal shows/exhibitions and small animal markets.
- ✓ In addition, an emergency ORV campaign in a restricted area (118 km²) around the first three confirmed rabies cases was organized by the regional Veterinary Service in March 2021 during which vaccine baits were manually distributed at the density of 30 baits/km²



Vaccination areas were constantly expanded, not only in Mazowieckie voivodeship, but also in the neighbouring regions of Świętokrzyskie and Łódzkie.

In 2020 the vaccination area covered a total area of 100 564 km²,
 In spring and autumn 2021 the area was expanded by 92 568 km² and 110 103km², respectively.

For the years 2022 and 2023 a larger area (123 928 km²) in the three voivodeships a larger vaccine coverage area is planned;
 the plans have been approved by the European Commission

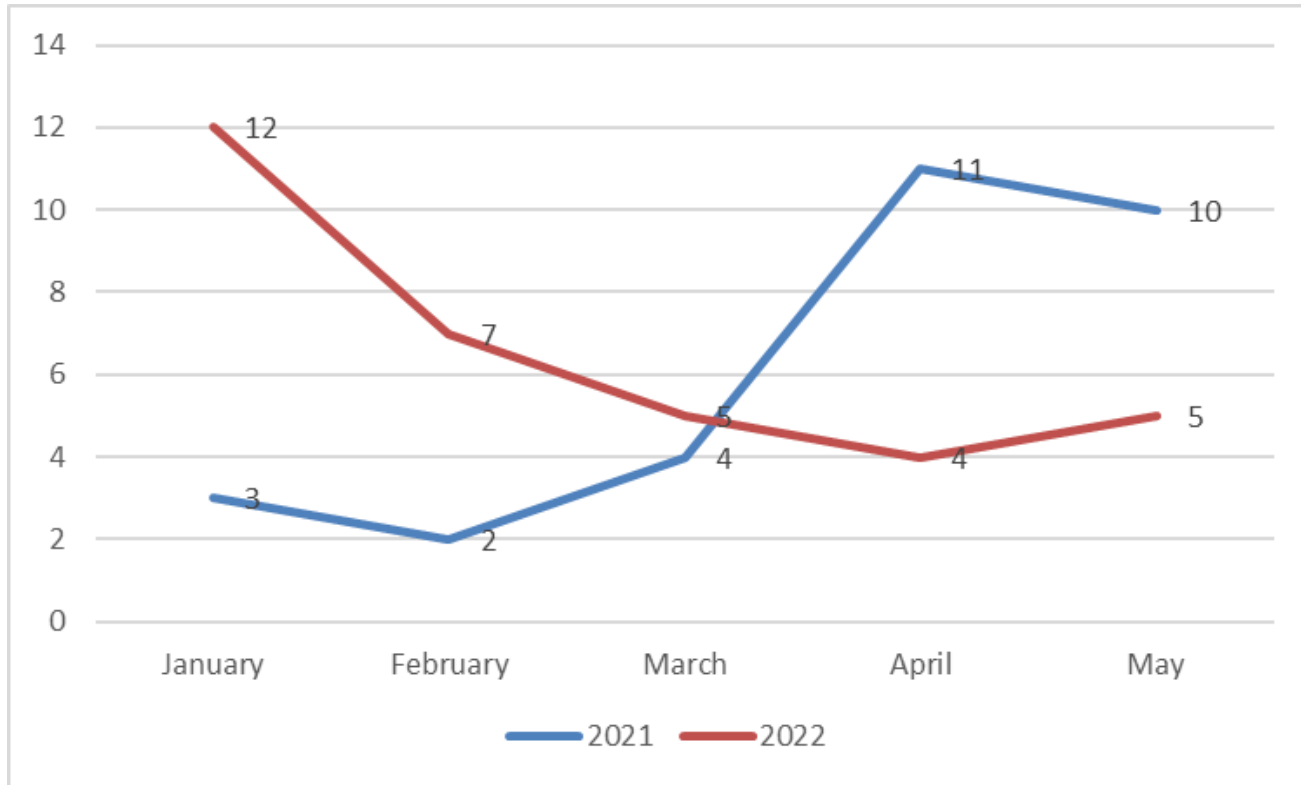


Rabies cases from January 2022 to May 2021 in Poland

Voivodeship	District	fox	dog	cat	badger	No cases	bat	Total
Mazowieckie	Gostynin	2				2		2
	Mińsk Mazowiecki	2		1		3		3
	Otwock	5	1			6		6
	Radom	2	1			3		3
	Szydłowiec	1				1		1
	Warszawa	11				11		11
	Węgrów				1	1		1
	Wołomin	1						1
Lubelskie	Ryki	2				2		2
Świętokrzyskie	Starachowi	2				2		2
	Skarżysko-Kamienna	1				1		1
Warmińsko-Mazurskie	Bartoszyce						1	1
TOTAL		29	2	1	1	33	1	34

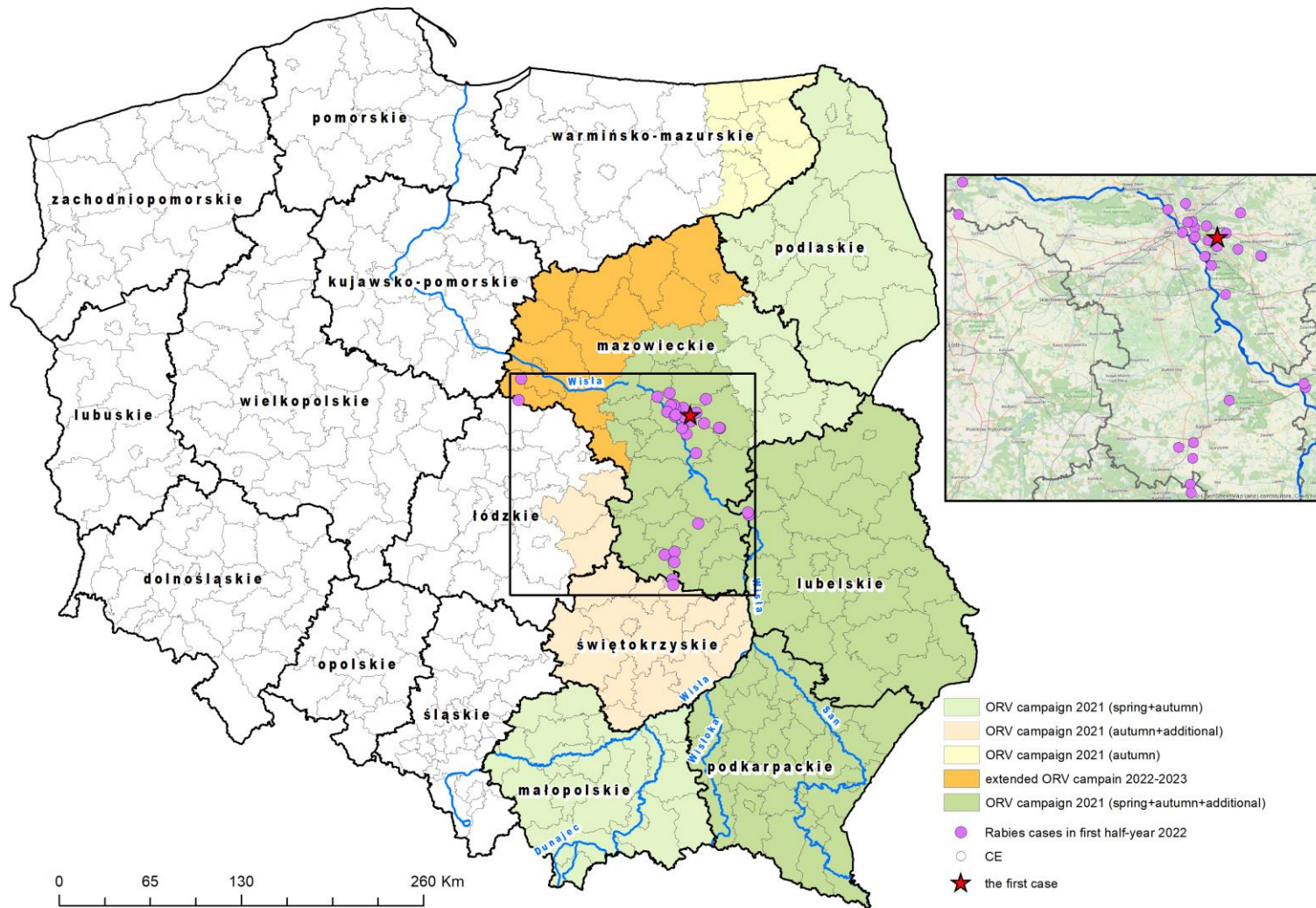
The highest number of cases was recorded in Mazowieckie Voivodeship in the districts of Otwock, Warsaw as in 2021

Rabies trend in 2021 and 2022 (January-May)

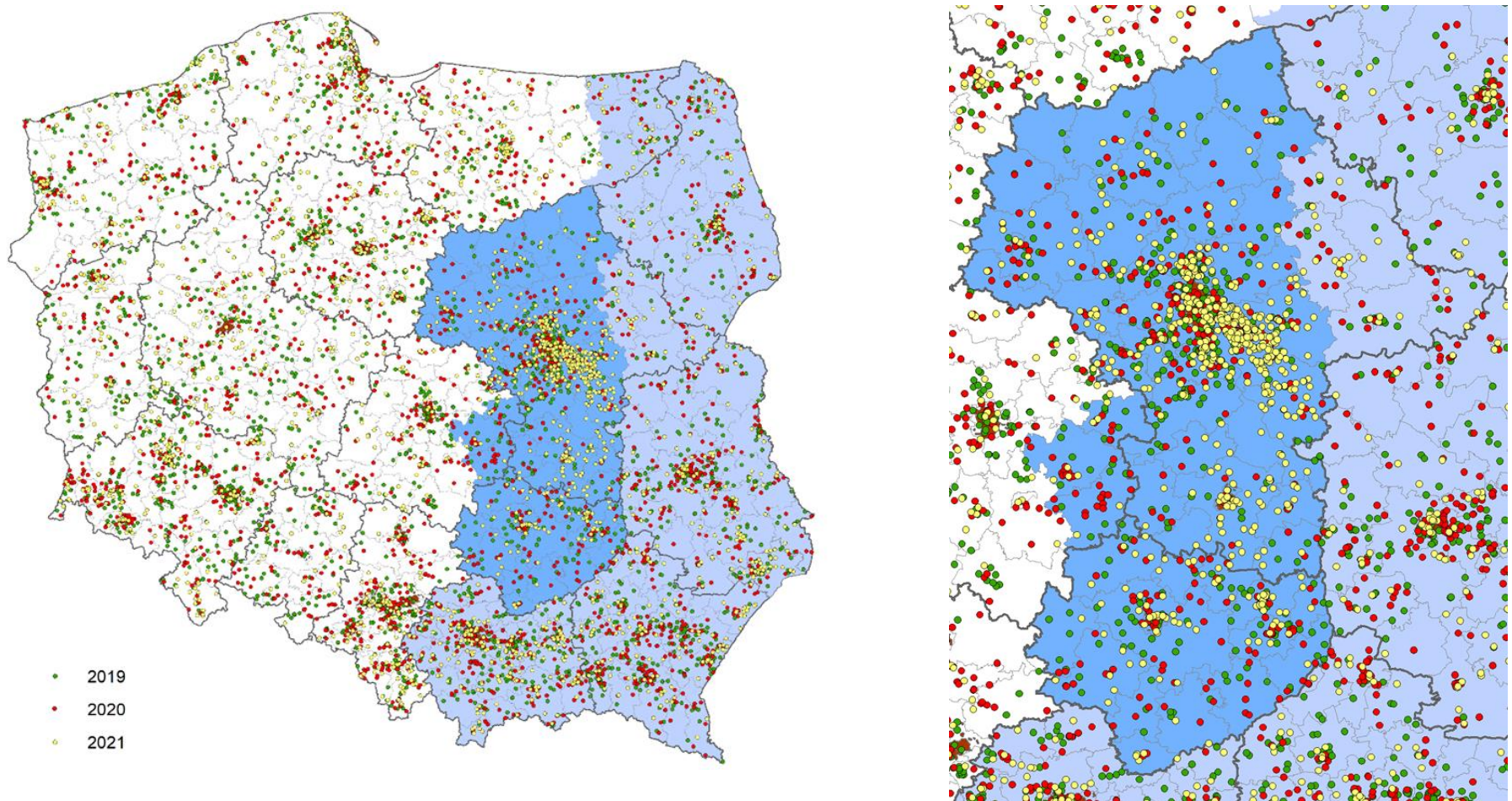


In 2021 we have observed an increase in cases in the period from January to May in contrast to 2022, where we have seen a decrease in rabies diagnoses since the beginning of the year

Distribution of Rabies cases 2022 (end of May)



Surveillance of Rabies in Poland 2019-2021



If we are looking at rabies surveillance we still need stronger surveillance and more samples from sentinel animals sent for testing

Thank you



13TH WORKSHOP FOR RABIES
WARSAW 15-16 June 2022