Eradication programme for infection with RABV

1. Date of submission.: **15.03.2023**
2. Name of the country. **SLOVAK REPUBLIC**
3. Territorial scope with a description and demarcation of the geographical and administrative areas covered by the eradication programme and names of zones and regions, if more than one region is included in the territorial scope of the programme.

In Slovakia, no positive rabies result confirmed from 2016 ahead, in 2018, the Slovak Republic met the requirements of the OIE and EC to be declared a rabies-free country.

The rabies situation in Slovakia has changed in September 2022 after confirming the positive result by wild animal, - badger in the east part of Slovakia. WOAH (OIE) rabies-free country status has been suspended. (no active free status).

Based on these rules, as well as following the EU legislation it is no longer possible to consider the entire territory of the Slovak Republic as officially free of rabies.

This means that the risk of epidemic has increased significantly thus Slovak veterinary authorities are responsible and obliged to take appropriate measures and steps to prevent further spreading of the disease on the Slovak territory, and to stabilise the situation.

Following this description the goals of programme which is to be perform are

- **to improve the disease situation with wild and domestic animals**
- **to decrease the risk of rabies transmission to domestic animals and people**
- **to eliminate barriers in movement of carnivores and other susceptible animal species**
- **to minimize government expenditure for prevention and abatement of rabies in the sector of agriculture and health**
- **to prevent rabies entering Slovakia from neighbouring countries**
- **to continue in performing of oral vaccination of the foxes and raccon dogs**

The territories which are free- where basic elements of the rabies surveillance are in place are- these areas met the requirements

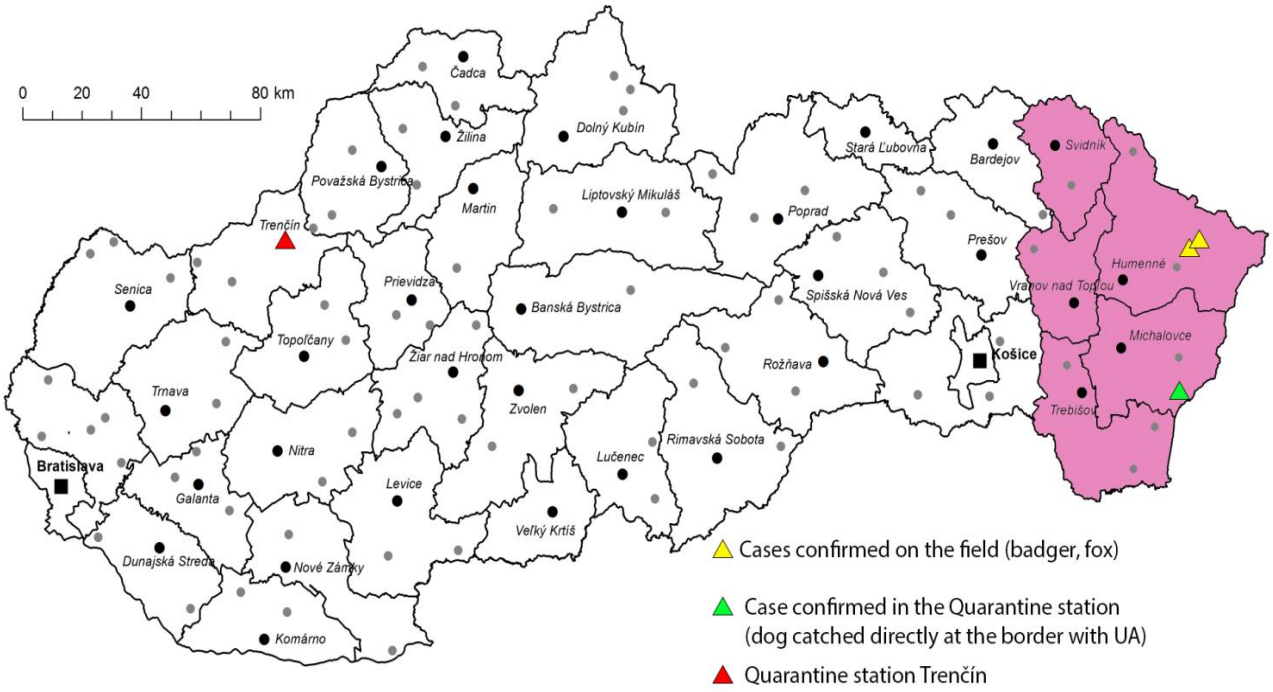
1. **Bratislavsky kraj**
2. **Trnavsky kraj**
3. **Nitransky kraj**
4. **Trenčiansky kraj**
5. **Banskobystricky kraj**
6. **Žilinsky kraj**

7. **Košicky kraj- several regions**
8. **Prešovsky kraj- several regions**

Deeper, more extensive and more sophisticated activities within the eradication programme are envisaged to by applied in Prešovský and Košický kraj , where, in some regions within "kraj" rabies cases have been confirmed.

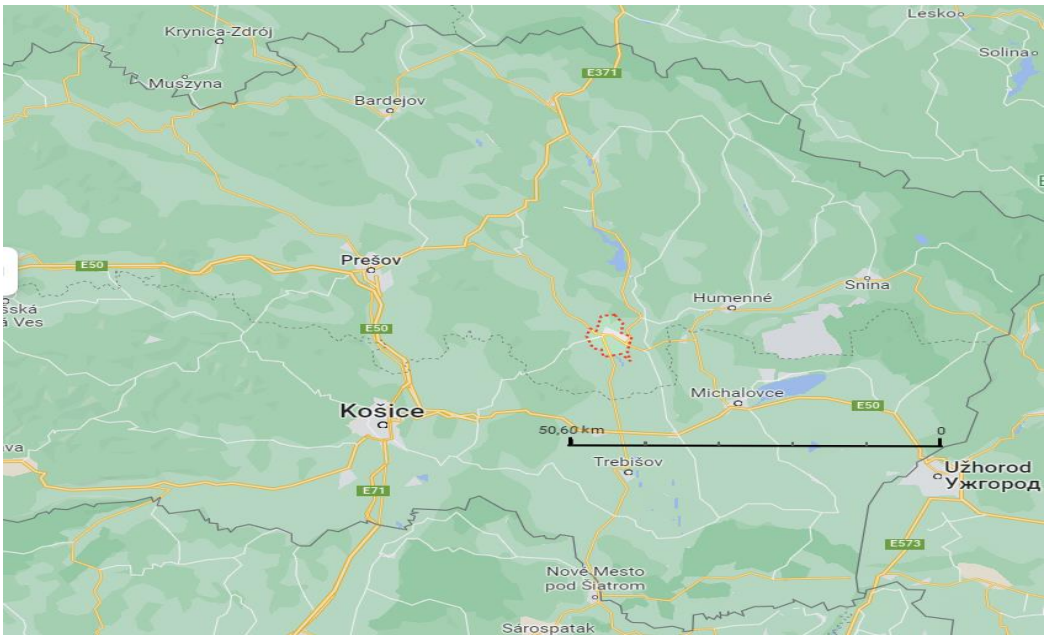
The application of the programme : whole territory oty of the Slovak Republic – depending of the activities described in the programme itself and valid for different administrative units

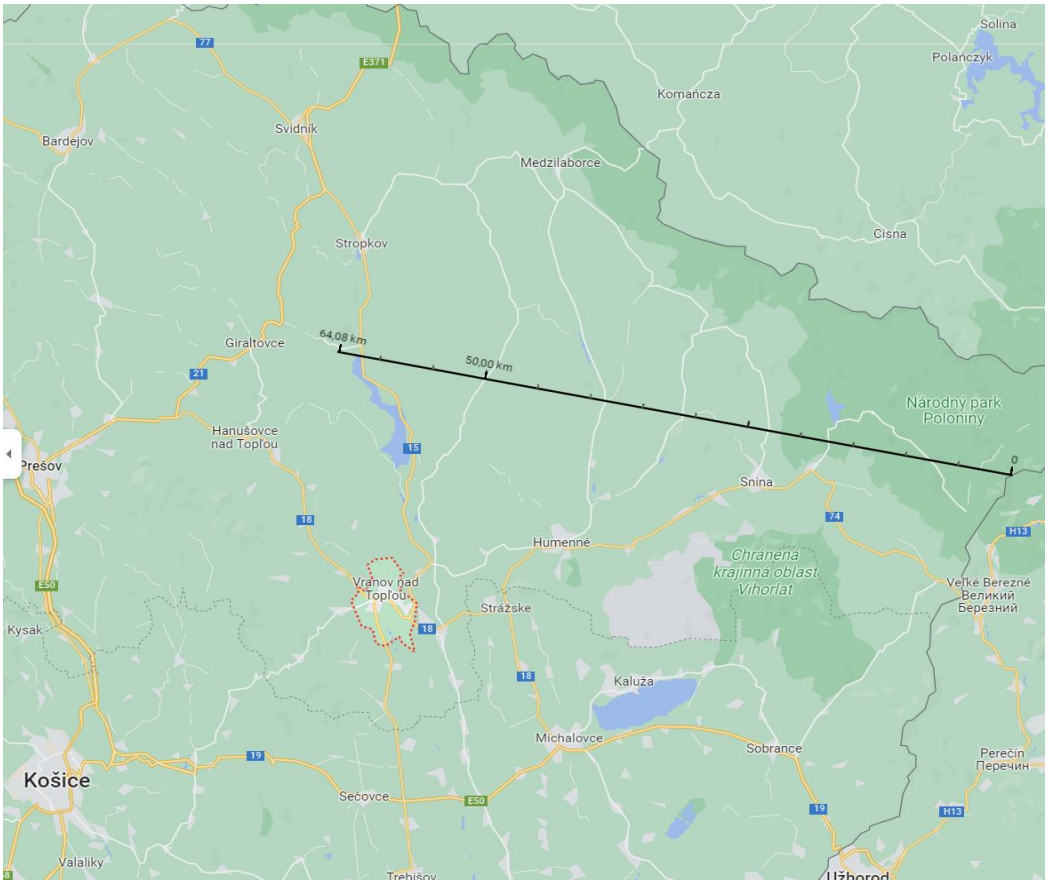
- New geographical division of the Slovak territory



1. the area where the programme is being performed (not free status)- it covers the regions: **Humenné, Medzilaborce, Snina, Svidník, Stropkov, Vranov nad Topľou, Michalovce, Sobrance, Trebišov (***The territorital jurisdiction of districts: Trebišov, Michalovce, Vranov nad Topľou, Humenné and Svidnik*)
2. The outstading territory: **whole territory except regions included in the eradication programme** - <u>remains free</u>

The distance from UA border as regards the territorial jurisdiction of districts included in the programme is 50 km and more. (area highlighted in pink)





4.**A description of the epidemiological situation during at least the past 5 years, including:**

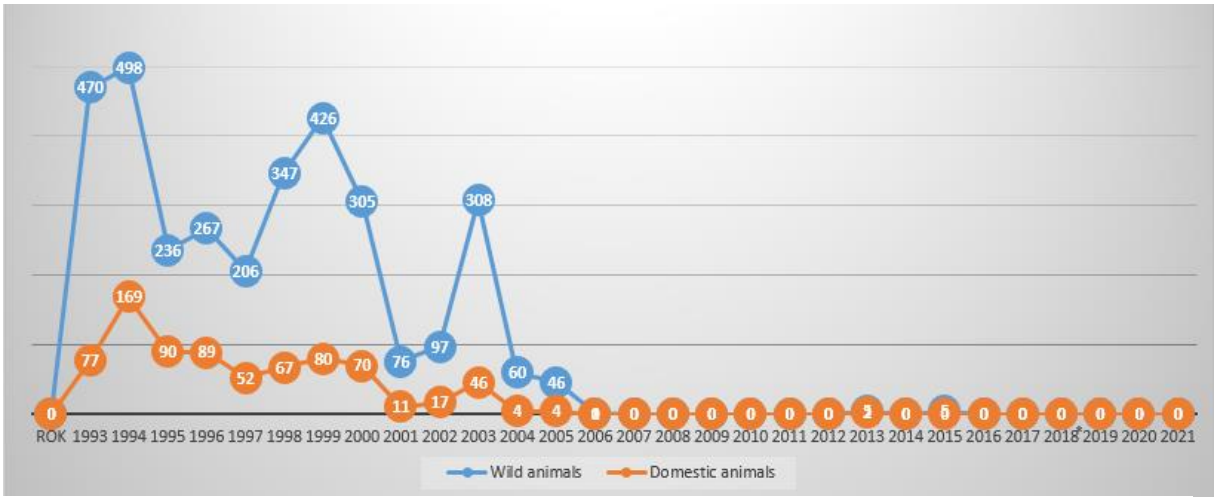
a) number of confirmed cases by listed animal species;

From August 2006 to January 2013, Slovakia was country declared free from rabies. From January to May 2013, 7 new cases of rabies were diagnosed/confirmed near the border with Poland, of which 2 cases occurred in dogs, 4 cases in foxes and 1 in a marten. In 2015, 5 cases of rabies were diagnosed in foxes in a close proximity to the polish border.
From 2016 ahead till September 2022 there was no confirmed case of rabies in Slovakia. In connection with the unfavourable epizootological situation in Poland (increasing number of cases of rabies in wild and domestic animals in the Mazovia Voivodeship) and in Ukraine, the eradication program has continued to be performed in defined areas with an increased risk of the possibility of introduction or risk of rabies cases.
In 2020, the Slovak Republic fulfilled the conditions of the International Office for Diseases OIE regarding the self-declaration of a country free of rabies. The Slovak Republic sent this application to the OIE in September 2020, and the approval process was successfully completed in 2021.
Based on the phylogenetic analysis of the VB747/2022 rabies virus strain, the sequences of rabies viruses isolated in Slovakia in previous years and the sequences of rabies viruses available in GenBank, it can be concluded that this is a new introduction of rabies virus, evolutionary unrelated to the rabies viruses isolated in Slovakia in 2013 due to introduction from Poland.
Genome-wide comparisons also revealed that the VB747/2022 rabies virus strain shows a high percentage of homology with rabies viruses currently circulating in Ukraine, Moldova, Romania, Hungary and Poland.

Summary – occurrence of rabies in 2022/23 in Slovakia

1. **a badger , district Humenne , september 2022**
2. **a dog, catched dirctly at border crossing area with UA (Veľké Slemence) district Michalovce; transported into the quarantine station, December 2022- *imported case***
3. **a red fox, district Humenne , January 2023**

b) maps indicating the distribution of confirmed cases referred to in point (a) per year;

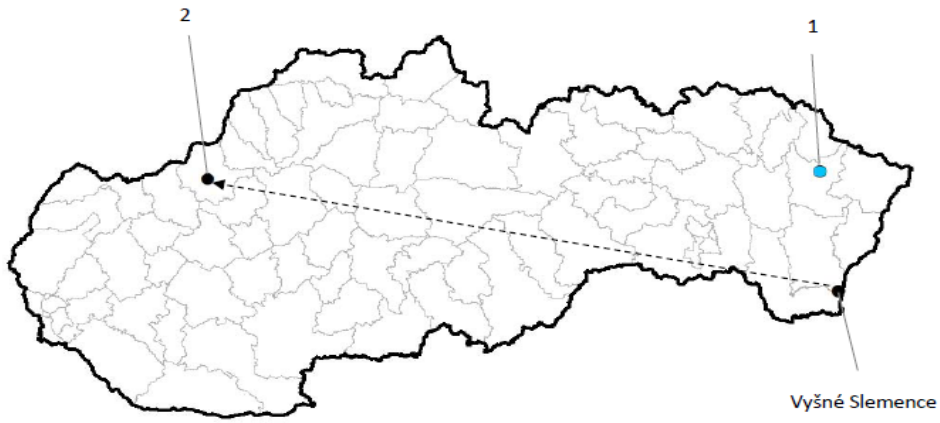


	Rok	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Wild animals	**Posit**	470	498	236	267	206	347	426	305	76	97	308	60	46	1
Domestic animals	**Posit**	77	169	90	89	52	67	80	70	11	17	46	4	4	0

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
0	0	0	0	0	0	5	0	5	0	0	0	0	0	0
0	0	0	0	0	0	2	0	0	0	0	0	0	0	0

Because of free status from 2016 the map shows the cases confirmed in 2022

Occurrence of Rabies in Slovakia during 2022



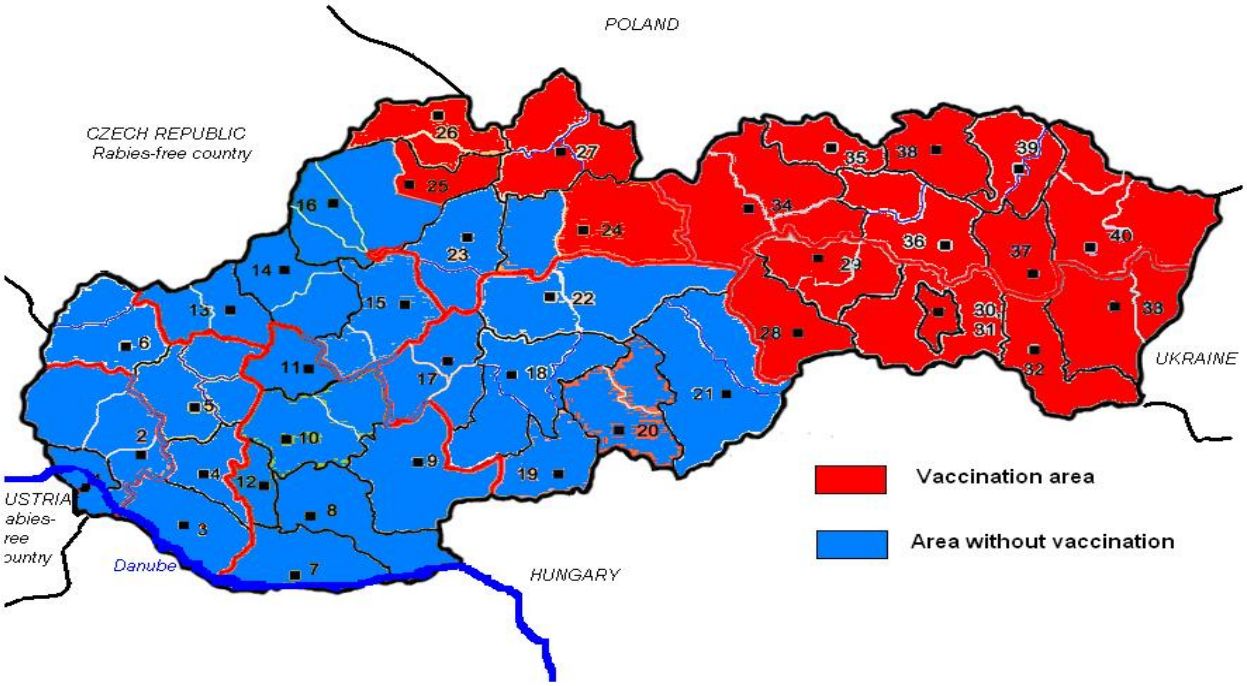
No.	Date	Animal	Region	Land register
1.	30.9.2022	badger	HE	Jabloň
2.	14.12.2022	dog	TN	Trenčín
	The dog comes from Vyšné Slemence, it was transported to Trenčín.			

On 02.01.2023, the National Reference Laboratory in Zvolen confirmed a positive result for rabies in a dead red fox found in the hunting area of Rebjaková, cadastral territory Rovné nad Udavou. The village is located in a 10 km defined protection zone, which was established in connection with a positive case of a badger from 30.9.2022 (Jabloň village, Humenné district). In this context, based on the update of the 10 km zone around the found dead positive fox, DVFA Humenné extended the measures for other cadastres.

(c) the disease control strategy and the results of the control measures

Since 1994, oral vaccination of foxes has been successfully carried out in Slovakia. In 2003 SVFA SR has decided to change used vaccine baits for other baits, containing the reliable strain SAD Bern, for the next years
Since the Czech Republic and Austria are declared as rabies free countries and because of current favourable situation of rabies in Hungary, vaccination area Slovakia is not applied in the territories of the DVFAs:
Bratislava, Senec, Dunajska Streda, Galanta, Trnava, Senica, Komarno, Nove Zamky, Levice, Nitra,Topoľčany, Šaľa, Nove Mesto nad Vahom, Trenčin, Prievidza, Puchov, Žiar nad Hronom, Zvolen, Veľky Krtiš, Lučenec, Rimavska Sobota, Banska Bystrica and Martin. On the territory of DVFA Liptovsky Mikulaš only the district of Liptovsky Mikulaš will be vaccinated (see the map).

The Vaccination is done in the remaining districts, corresponding to numbers 24 to 40 in the table and marked in red on the map.



The vaccination in the red area is not performed also in the places with the altitude above 1200 metres above see level, water flows, roads communications, towns and settlements, and places , where Civial aviation authority of the Slovak Republic does not allow to perform this type of vaccination (approx. 13 980 km2 (aerial distribution ; year 2022) + 208 km2 (hand distribution – year 2022). The areas of the Slovak Republic with an altitude above 1200m are mostly rocky surfaces and without vegetation. The Slovak Hunters Chamber and the National Forest Centre having experts for wild animals, have recorded only a short and random stay of foxes by observation. The foxes come into lower wooded altitudes where they can find enough food and suitable conditions for reproduction. For this reason, based on the mentioned observations, the oral vaccination of foxes in areas with altitude above 1200m would be ineffective.

Moreover – in many cases the territories above 1200 m are national parks with high level of nature protection with strict rules for everybody and there is a ban of using the

planes. In High Tatras – in the places – where the occurrence of fox population could be expected we are performing the vaccination according thr vaccination manual (hand distribution) – for many years without any substantial problem by its performing.

Depending on both climate conditions and nature of vaccine, it is not possible to change the date of vaccination. Slovakia regularly and in advance informs neighbouring countries about the vaccination. At present, from the side of neighbouring countries there are no obstacles and limitations in realisation of the Programme. Cooperation with the neighbouring countries (Poland, Hungary) consists of information exchange on the time of oral vaccination, while the oral vaccination is carried out approximately at the same time. For SK there are always more enquiries regarding cooperation in solving rabies with the Ukraine.

Checking the effectiveness of oral vaccination - performing control examinations:

- **samples of all domestic, farm and wild warm-blooded animals suspected of rabies must be sent for laboratory examination,**
- **on the 3rd, 8th and 14th day after manual distribution a control of the reception of the vaccination bait will be carried out in selected territories ; the control means the number of missing vaccination baits compared to the plan for manual distribution of vaccine baits on the given day after distribution,**
- **users of the hunting areas will shoot foxes in accordance with the instructions of the Slovak Forest Service, which are intended to check the effectiveness of the campaign of oral vaccination of foxes against rabies; it is necessary to deliver at least 1 fox from each hunting association for laboratory examination, individuals with milk teeth will not be included in the monitoring. All caught racoon dogs will also be included in the monitoring,**
- **the date of completion of the control of effectiveness of oral vaccination will be determined by the SVFA SR**

- **Veteirnary Institute Zvolen, after finishing of the monitoring period, will examine the samples of transudate or cruor and a part of the mandible (ELISA, TTC) from examined animals intended to check the effectiveness of oral vaccination of foxes against rabies from the vaccinated area (the number will be determined in the shooting guidelines for foxes and racoon dogs).**

- **after receiving the results of the effectiveness of the campaign of oral vaccination of foxes, its evaluation will be carried out**

Since new confirmation of rabies in 2022 on the slovak territory the information for the public is subject of regular update in order to increase the awareness about the disease, steps and measures taken as well as the development of the epidemiological situation

Nákazy a choroby zvierat - Besnota (svps.sk)

5. **A description of the disease control strategy of the eradication programme in accordance with Article 32 of Commission Delegated Regulation (EU) 2020/689:**

(a) surveillance, including at least:

(i)targeted animal population;

The target animal species of this programme is the wildlife red fox and raccoon dog. The expected number of living wildlife red fox according to hunting bag is up to 35.000 animals. The expected number of living raccoon dog is approx. 1400 animals. In the programme all suspected animals from both vaccinated and non-vaccinated areas (from all species declared as susceptible) are included as well.

Rabies control is being performed also in domestic animals. A basic condition for the eradication of rabies in domestic animals arte records and identification of dogs - pet animals must be unmistakably marked and accompanied when moving with an animal passport and their identification data kept in the Central register of pet animals + the owner of the dog is obliged to provide a permanent marking of the dog bred on the territory of the Slovak Republic before the first change of owner, but no later than 12 weeks of age, and to enter the identification data of the dog and data about the owner of the dog in the central register of pet animals.
The owner or keeper of an animal of a susceptible species of carnivore is obliged in accordance with article 17 par. 5 of Act no. 39/2007 Coll. ensure the vaccination against rabies.
The vaccination of other susceptible domestic animals (except horses, cattle, sheep and goats) is permitted by the relevant regional veterinary and food administration under conditions approved by the Slovak Veterinary and Food Administration (SVFA) . regular compulsory; rabies vaccination of cats is not required by law on veterinary care , but is recommended

The vaccination of horses, cattle, sheep and goats is permitted by the relevant DVFA.

Vaccination of wild foxes is carried out 2 times a year in the form of oral vaccination in the spring and autumn campaigns (see chapter *oral vaccination of foxes*) according to the methodology developed by the SVFA

(ii) sampling schemes and details on the collection of dead animals;

(iii)diagnostic methods;

sampling scheme:

- **all domestic, farm and wild warm-blooded animals suspicious of rabies have to be sent for laboratory examination - the whole carcase up to 50 kg or the head with first two vertebras in the case of heavier animal**
- **from 45th day following of seasonal oral vaccination campaign the users of hunting grounds carry out the shooting of foxes intended for control of efficiency of seasonal campaign of oral antirabic vaccination of foxes. It is inevitable to submit for laboratory examination at least 1 fox per hunting ground. The needed number of submitted foxes is 4 head per 100 km2/ year from vaccination area.**
- **from 45th day following of seasonal oral vaccination campaign the users of hunting grounds carry out the shooting of foxes intended for control of rabies in wild fox population. Only virological tests shall be carried in suspected foxes from nonvaccinated area (low-risk area).**
- **the date of completion of the control of oral vaccination efficiency is usually on 90th day from the beginning of the control of oral vaccination efficiency**
- **it is necessary to wrap up the hunted fox into two impermeable packings, with an absorbent material between them and to deliver within 48 hours to the DVFA; DVFA delivers the material to the Veterinary Institute Zvolen (VI) for laboratory examination**

- **in case of injury of humans by animals – the samples must be sent by veterinary inspector for testing of presence of virus as soon as possible (or excluding of its presence); veterinary inspector informs SVFA without delay**
- **the principles for work with infection material is necessary to follow by sampling.**
- **the DVFA send to the Veterinary Institute Zvolen (VI) as soon as possible following the the samples of neural tissue from all positive animals for the purpose of confirmation of rabies virus and immediately inform the SVFA**
- **the principles for work with infection material is necessary to follow by sampling.**
- **the evaluation of the results of the vaccination campaign is done after receiving of all laboratory results by advisory body of CVO for rabies**
- **The efficiency tests of vaccination baits are performed only by VI Zvolen**
- **Titre determination of rabies virus amount in vaccines for oral vaccination of foxes includes decimal dilution in the cultivation media. Susceptible cell culture BHK-21 is added to the titre vaccine and after 48-72 hour incubation, presence of the virus is visualized by immunoperoxidase staining. Reaction is assessed by an optical microscope. SAD-Bern reference virus strain of the verified batch serves as the control system. After evaluation of the titration of samples and reference virus, titre TCID50/50µl is determined by means of virus Reed-Muench quantification method. Whereas the virus titre in the vaccines is indicated in TCID50 /1ml the final titres are recalculated to this amount.**

Rabies passive surveillance is carried out in whole territory of the Slovak Republic

Diagnostic methods:

Serological tests:

ELISA – locally made – blocking system using biotinylated goat polyclonal antibodies for detection anti G protein antibodies

FAVN – modify with immunoperoxidase detection of virus (WHO 1996, OIE 2000)

virological tests: FAT – antigen detection on impressions or smears with FITC conjugated antibodies (WHO 1996, OIE 2000)

RT PCR

Confirmation of Rabies field virus:

Indirect immunoperoxidase technique using monoclonal antibodies: W187.5, W187.6, Z144.88(purchased from Tübingen)

RFLP – on amplicons of pseudogene using TAQ1 restriction endonuclease (WHO,

1996)

Typing of Rabies virus:

Sequencing and phylogenetic analyses of Slovakian rabies virus field strains

Sequencing analyses using region coding nucleoprotein, phophoprotein, matrix and glycoprotein (4890bp) (Campos et al., 2011; Dirbakova, Veterinary Institute Zvolen Slovakia, unpublished) followed by the sequence alignment and phylogenetic analyses using Clustal V method from MegAlign Lasergene of DNASTAR Lasergene ver9 package programme

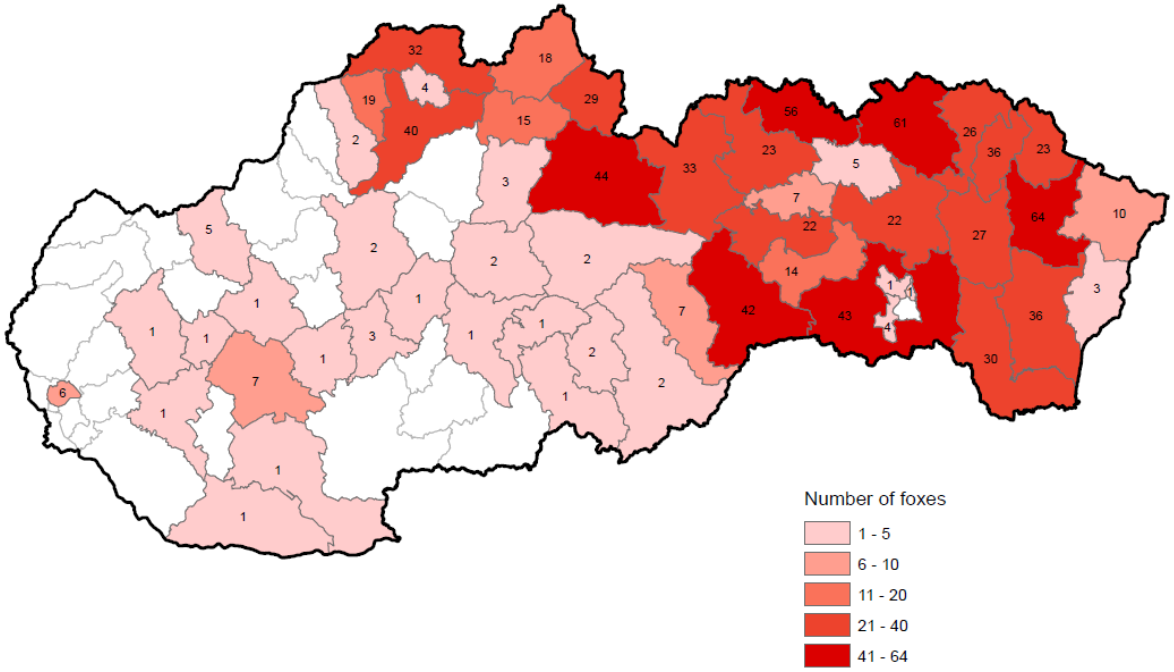
Other used tests:

- **PCR method using Lyssavirus-specific primers (WHO, 1996)**
- **Virus cultivation on Neuro-2a cell cultures in microtitration plate.**
- **Visualisation of antigen is performed with indirect immunoperoxidase technique using sheep polyclonal serum (WHO 1996, OIE 2000)**

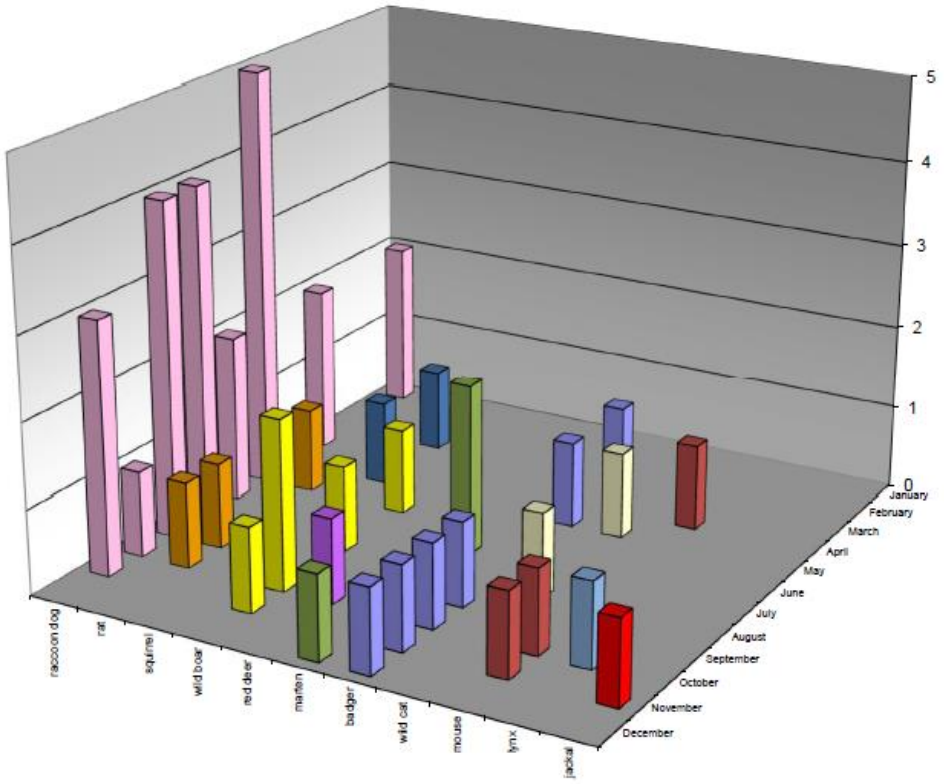
Monitoring of vaccination:
TTC marker detection:

Fluorescent microscopy (published by Stohretal et al., 1990)

Geographical origin of foxes submitted for Rabies investigation in Slovakia during 2022



Wildlife animals (without foxes) submitted for Rabies investigation in Slovakia v roku 2022



animal	January	February	March	April	May	June	July	August	September	October	November	December	total
raccoon dog	2			2		5	2	4	4	1	3		23
rat						1			1	1			3
squirrel			1		1								2
wild boar						1		1		2	1		5
red deer										1			1
marten							2					1	3
badger			1		1				1	1	1	1	6
wild cat					1			1					2
mouse				1						1	1		3
lynx										1			1
jackal											1		1
total	2	0	2	3	3	7	4	6	6	8	7	2	50

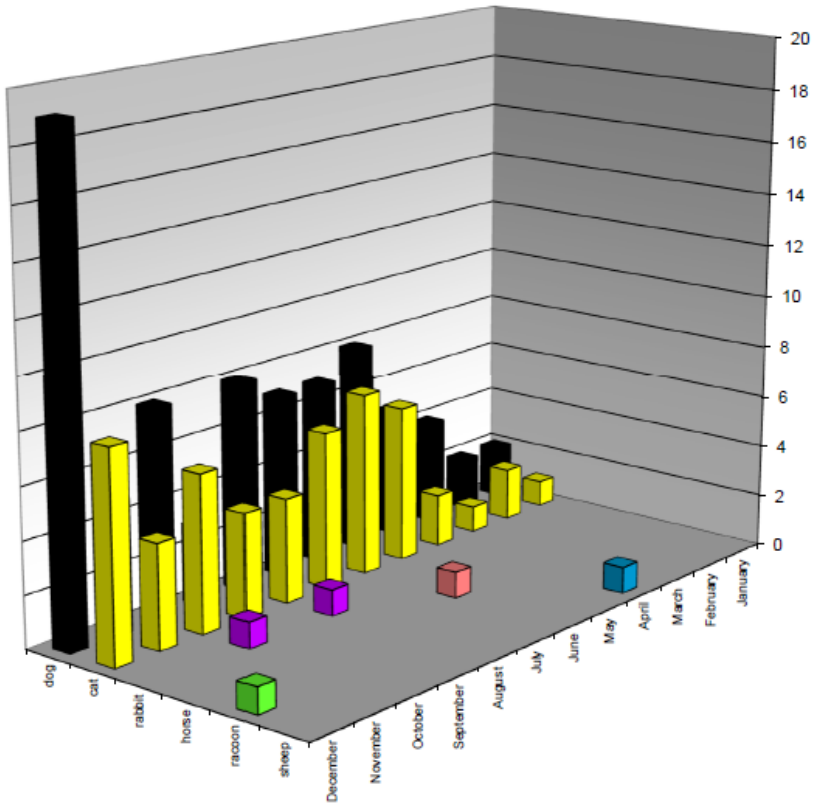
Monitoring of rabies in domestic animals is performed by veterinary examination of susceptible species in case of disease suspicion or by a clinical examination of animals that have exposed a man or an animal. Clinical examination of domestic animals is carried out on the 1st, 5th and 14th day after exposition, the veterinarian performing an examination will issue a veterinary certificate about examination of the animal health status.

Monitoring of rabies in wild animals and its performance is the part of methodology of oral vaccination of foxes against rabies under the National Rabies Eradication Programme in the Slovak Republic. The part of monitoring of rabies in wild animals is laboratory examination on rabies in all animals of susceptible species and prescribed serological and virological examinations of foxes hunted within control of effectiveness of particular campaigns of regular oral vaccination of foxes. Each year, monitoring and prevention are analysed and updated based on the results.

Imports and movements of animals are ordered at the place of origin or the place of entry into the EU in the unified central database system Traces for monitoring the movement of animals and products of animal origin as well as organic products, fishery products, wood, plant and plant protection products within EU and coming from the territories outside the EU.

In case of confirmation of rabies outside the quarantine, this system enables to identify the location of animals and subsequently to trace contact with animals which could be of secondary risk. The veterinary measures in case of suspicion or confirmation of rabies are the same for all detected cases whether or not they are located in the quarantine. The veterinary measures are set out in detail in valid eradication programme, which is annually updated, taking into account the development of the situation.

Domestic animals submitted for Rabies investigation in Slovakia during 2022



animal	January	February	March	April	May	June	July	August	September	October	November	December	total
dog	2	2	4	5	8	7	7	8	3	8	5	19	78
cat	1	2	1	2	6	7	6	4	4	6	4	8	51
rabbit								1		1			2
horse						1							1
racoon												1	1
sheep				1									1
total	3	4	5	8	14	15	13	13	7	15	9	28	134

(b)if relevant, vaccination, including at least:

(i)vaccination of kept animals in the framework of the eradication programme;

—type of vaccine(s) to be used,

Oral vaccination of wildlife red foxes

- vaccines (type, dosage): Lysvulpen a.u.v.

Vaccination of domestic a

nimals:

Each domestic carnivore older than three months of age must be vaccinated against rabies with yearly; revaccination according to Aricle 17 (5), (6) of Act No. 39/2007 Coll. and the vaccine manufacturer´s recommendations

- vaccines (approved) and vaccination schemes, if recommended:

- **Biocan R inj. a.u.v. (Biocan LR inj. a.u.v.) - from 12 weeks of age**
- **Canigen DHA2PPi/LR inj. sicc. a.u.v.**
- **Canvac R inj. a.u.v. - since one month of age in the case of animals born to unvaccinated mothers (illegal in SK), in otherwise the vaccination after 3rd month of age is sufficient**
- **Eurican DHPPi2-LR inj. sicc.a.u.v. - from 3 months of age**
- **Nobivac Rabies inj. a.u.v. cats and dogs from 4 weeks of age**
- **Rabigen mono inj. a.u.v. - from 3 months of age**
- **Rabisin inj. a.u.v. - since 4 weeks of age in the case of animals born to unvaccinated mothers, in otherwise from 11th weeks of age.**
- **Biocan DHPPi+LR inj. a.u.v. - from 12 weeks of age**
- **Biocan Novel R inj. a.u.v. - from 12 weeks of age**
- **Biocan Novel DHPPi/L4R inj. a.u.v. - from 8 weeks of age**

— targeted population;

The owner or keeper of an animal of a susceptible species of carnivore is obliged in accordance with article 17 par. 5 of Act no. 39/2007 Coll. ensure the vaccination against rabies.
The vaccination of other susceptible domestic animals (except horses, cattle, sheep and goats) is permitted by the relevant regional veterinary and food administration under conditions approved by the Slovak Veterinary and Food Administration (SVFA) .

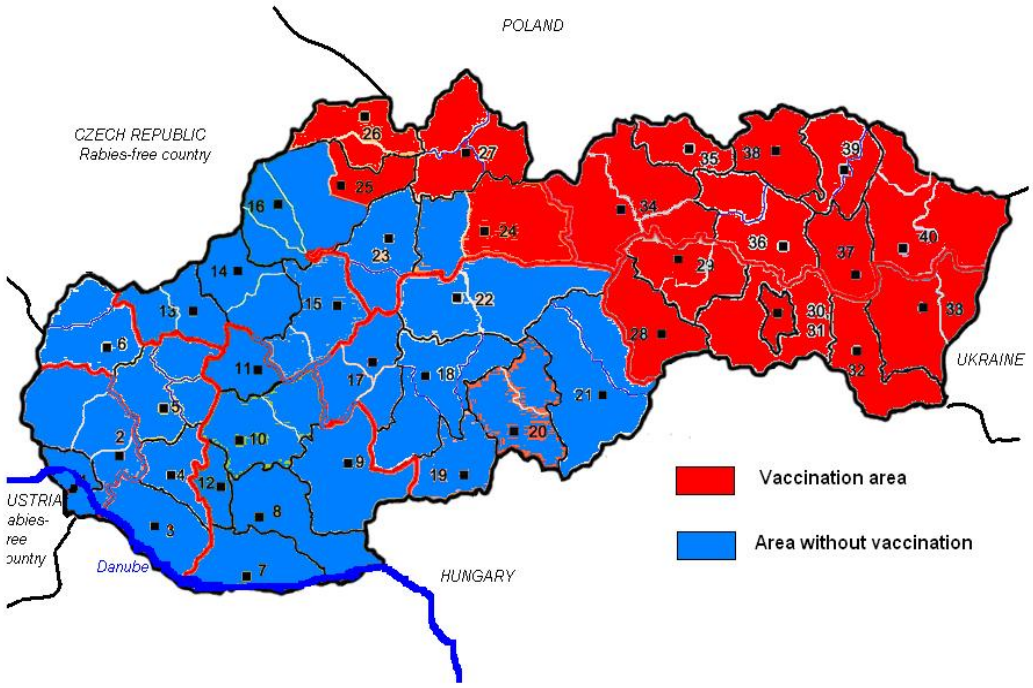
The vaccination of horses, cattle, sheep and goats is permitted by the relevant DVFA.

(ii)vaccination of wild animals:

the vaccination of wild foxes is carried out 2 times a year in the form of oral vaccination in the spring and autumn campaigns (see chapter *oral vaccination of foxes*) according to the methodology developed by the SVFA

—definition/demarcation of the vaccination area

DISTRIBUTION OF VACCINE BAITS FOR ORAL VACCINATION OF FOX POPULATION IN THE SLOVAK REPUBLIC IN THE YEAR 2023



—frequency and expected dates of the vaccination campaigns,

This current programme has been run since 2000 in two campaigns, one in spring, and the other one in autumn. Fix-wing airplane and by hand distributions are used as well. For this programme we have used the vaccine baits containing the virus strain Vnukovo 32/107, titter min. 106,5 TCID50/ml (2000, 2001 and

spring 2002), SAD VA-1, titter min. 107 TCID50/ml (autumn 2002 and spring 2003) and SAD Bern, tittermin. 1,8x107 PFU (2000, 2001, spring 2002, 2003-2022).

The fox population's density estimated on the number of hunted animals during the programme has been increased from 19.500 to 23.000 foxes in 2001 and begun to grow very in the second half of year 2002 and the first half of year 2003.

The number of hunted foxes in 2002 was 22.251 animals, what encourages us to estimate the number of fox population more than 35.000 animals – 0,57 – 0,61 fox per square kilometre.

This stay of fox population has been related to the comedown of the favourable progress of the rabies situation.

The effectiveness of the oral vaccination programme is checked ked and will be evaluated by laboratoryexaminations of randomly hunted or perished foxes

and raccoon dog and foxes, raccoon dog hunted within the target-monitoring period. In case of positive confirmation, an expert group may decide the necessity of emergency vaccination in determined risk area
The percentage of bait uptake and by raccoon dogs is acceptable and it is also within figures which are presented by many of members of GF-TADs by presenting the results of oral vaccination of foxes. The population of foxes and raccoon dogs has been growing steadily since the eradication program began.
In 2023 the distribution of vaccination baits is planned in two campaigns using by-air and by-hand distribution in spring and autumn. The vaccination area determined (see map attached)

—**vaccine bait(s) to be used;**

LYSVULPEN por. ad us. vet. Vaccine against rabies intended for oral immunization in foxes

PACKAGE INFORMATION Composition - 1 dose - 1.8 ml Active ingredient: Virus rabiei attenuatum SAD Bern min. 1.8 x 107 TCID50 – max. 1.8 x 108 TCID50 Excipients: - stabilization medium In one bait, there is one vaccination virus dose (1.8 ml) closed in aluminum-plastic blister.

Round, dark brown bait is made of feed mixture attractive for foxes and other target animal species. Each bait contains 150 mg of tetracycline HCl, which is intended as an indicator of ingestion by target animal species. Pharmacotherapeutical group Veterinary immuno-preparation Uses An immune system is activated after a virus has penetrated into the mucosa of the oral cavity or that of nasopharynx. Immunized foxes are thus protected against an infection caused by a virulent virus and rabies distribution becomes impossible.

The immunization period is determined for a minimum of 1 year.

The vaccine contains a modified attenuated vaccine strain SAD Bern rabies, propagated in cell cultures, antibiotics and a stabilization medium. The mixture is dispensed into blisters, plastic capsules sealed with an aluminum foil. These are covered with a bait substance including tetracycline. Tetracycline functions as a vaccination indicator. A vaccine virus can be differentiated from a field virus if monoclonal antibodies are applied. Foxes become immunized after they have eaten laid baits containing the vaccine virus.

In immunized foxes the immunity develops within 21 days from the day a fox has eaten the bait containing the vaccine virus. Indication For prophylactic vaccination of wild red foxes and raccoon dogs against rabies. Target animal species Red fox (Vulpes vulpes), raccoon dog (Nyctereutes procyonoides).

—**vaccine bait distribution method and designed vaccine bait density;**
By air distribution:
26 baits per 1 km2 applied in two lines (distance of 500 m) flying height 150 m, flying speed of 150 km/h. At by air distribution the places with the altitude above 1200 metres, water surfaces, road communications, towns and settlements are omitted.

By hand distribution:
20 baits per 1 km2 on selected areas (periphery and parks of ten big towns)
- vaccination scheme: the oral vaccination is performed in two seasonal

campaigns - in the spring (end of March to beginning of May) and in the autumn (end of September to beginning of November)

—description of the methods to be used to assess the correct vaccine bait distribution,

—description of the strategy to monitor the effectiveness of the vaccination as regards serology and vaccine bait uptake in the targeted animal population, the sampling schemes, with details on the collection of dead animals, and diagnostic methods,

— The Veterinary Officer of District Veterinary and Food Administration Poprad (DVFA) carry out the supervision on by air and by hand application of the vaccine baits. The supplier handed out the vaccine baits on the airport or at the DVFA Office to the DVFA Veterinary Officer, which checks the stay of repair of the vaccine baits, their packaging, check batch number and number of supplied vaccine baits for each supply and may take the sample of the baits. The results of their checks and sampling of the baits (if done) he report next day morning to SVFA by e-mail. The contractor for aerial distribution shall provide the recorded flight route data to the DVFA at the end of each distribution day. Human resources: The Head of the Animal health protection Department at the District Veterinary and Food Administration Poprad will be a professional coordinator of vaccination by air for vaccinated area of the Slovak Republic and professional coordinator of vaccination by hand of the Poprad region. The Heads of the Animal health protection Departments at the District Veterinary and Food Administrations Prešov, Košice – city, Bardejov will be the professional coordinators for vaccination by hand Coordinator ensures specific tasks on the concerned area. In particular, contact with the suppliers company, informing respective authorities at the district level, ensuring control of the delivery of the vaccine, collection of samples of vaccination batches and surveillance upon the way of performance of laying of vaccination baits by means of veterinary inspectors of animal health of the concerned DVFAs and evaluation of the Campaign of oral vaccination of foxes against rabies. The coordinator or the veterinary inspector of DVFA accredited by him, latest in the morning prior beginning of the flights, in frame of the Operational Meeting will evaluate the situation and weather forecast and shall determine on the beginning or interruption of flight laying of the vaccination baits. Suppliers company and SVFA SR shall be informed about it.

Vaccination baits can be laid at the temperature of +2°C up to +20°C.
The coordinator shall ensure completion of the Report on the process of vaccination by air of each flying day, concerning:
• Beginning and termination of particular flights (place, date and time),
• Number of flights, /
• Interruption of flights,
• Temperature of air at the beginning and at the end of flight laying of the vacciantion baits,
• Number of used vaccination baits,
• Name and batch of used vaccination baits,
• Number of vaccination baits taken and sent for laboratory investigation of virus titer of rabies in the vaccination baits necessary for the control of effectiveness of the vaccination baits and the number of production batch, if the

samples were taken,
• Eventually found insufficiencies.

It is necesary to send the Report to the State Veterinary and Food Administration of the Slovak Republic on the next working day until 10:00 a.m.
Bioveta SK, spol. s r.o., Nitra shall submit GPS (Global Positioning System) record, from which the area of layed vaccination baits and the area where the vaccination baits were not layed is apparent. These GPS records in map scale 1:200 000 of each flight day from the summary of flight days of airport Poprad and summary of air vaccination of the whole oral vaccination campaign, are daily sent to SVFA SR.

Vaccination baits are in the time of expenditure from the manufacturing corporation, transport to the stocks and in assigned stocks in the frozen state (in the temperature of - 12°C and bellow). It is necessary to lay the vaccine, taken from the freezing stock, into the vaccination area latest until 24 hours. The vaccination bait, under the condition of common manipulation, is harmless for the human. Vaccine contains attenuated strain of rabies virus. If the content of the blister would get in contact with hands, it is necessary to wash hands with soap and water immediately. If the content of the blister would get in contact with the mucous membrane of the mouth, nose or eyes, it is necessary to immediately find out a medical attendance. Protective gloves are indispensable in manipulation with the vacciantion bait from the security point of view and in order to prevent the transmission of human scent to the vaccination bait. Used protective gloves and other material in contact with the vaccination bait have to be destroyed by incineration.
Sample of the vaccination baits shall be taken by the coordinator or the competent veterinary inspector, in compliance with a separate methodological letter (Sampling and dispatching of samples of the vaccination baits within control of effectiveness of oral vaccination of foxes against rabies (regularly updated) and shall ensure transport of the samples in frozen state to the VI Zvolen.
The samples shall be taken also in case of any suspicion of incorrect manipulation with the vaccination baits (in storage, transportation, etc.). All samples of the vaccination baits shall be taken as an official sample.

Year	Bait uptake = biomarker TTC		Seroconversion = antibodies to rabies virus ELISA	
	No. of foxes and	No. of biomarker	No. of foxes and raccon dogs	No. of biomarker positive samples

	raccon dogs tested	positive samples	tested	
2015	535	379	530	258
2016	552	344	550	229
2017	519	340	514	210
2018	491	168	492	301
2019	502	293	501	105
2020	542	363	542	163
2021	609	384	609	169
2022	671	432	671	238

—**vaccination of stray dogs with the type of vaccine(s) to be used and the targeted population;**

The management of stray dogs – the repsonsibility for their catching is by the cities and villages auhtorities . From safety and veterinary point of view the treatment /vaccination is performed on the same way as by other dogs where the owner is known. Moreover , In Slovakia obligatory chipping of each dog is performed and the chipping must be performed prior the vaccination is done Only authorised vaccines as described in other part of the programme should be used for vaccination in accordance with the instructions for use.

(c)the disease control measures to be applied in the event of a confirmed case;

The measures in case of positive result on rabies are ordered by the DVFAs in compliance with the Article 8(3)(f) and Article 17(3) of the Act No. 39/2007 Coll.

The respective DVFA at confirmation of rabies occurrence in domestic animals extends the previous measures for disease control by further measures (see measures taken in the case of suspicion) for disease control and determines to the natural and legal persons the date for their fulfilment by which

a) it defines a rabies outbreak,

b) it orders in that outbreak:

1. marking it with warning signages with wording "CAUTION RABIES!"

2. killing of susceptible animals which came into contact with an animal positive to the presence of rabies antigen,

3. to perform the registration of dogs and cats and protective vaccination of dogs, cats and other carnivore over 3 months of age which have not been vaccinated against rabies so far or since the last antirabies vaccination or re-vaccination period elapsed, provided that they did not come into contact or they did not have the possibility to come into contact with an animal positive to the presence of rabies antigen,

4. to perform protective vaccination of susceptible domestic animals; it will permit to use of the milk and other products obtained from them for the human consumption and feeding purposes only following gained immunity (this period will be stated based on the date of vaccine manufacturer).

After confirmation of rabies occurrence in wildlife, the respective DVFA extends the previous measures for disease control by further measures (see measures taken in the case of suspicion above for disease control and determines to the natural and legal persons the date for their fulfilment. by which

a) it defines a rabies outbreak,

b) it orders in an outbreak the points listed above (points 1,2 and 3) and in addition, it orders:

4. to perform protective vaccination of cattle, sheep and goats in pasture and to stable the animals until gaining the immunity (this period will be stated based on the date of vaccine manufacturer).

The holding or cadastre of the municipality or other geographically defined area, in which the rabid animal was kept, hunted or found, is defined as a rabies outbreak, based on confirmation of rabies occurrence by laboratory diagnostics.

(d)the public information campaigns to be implemented;

The SVFA routinely sends letters to all relevant competent authorities and the neighbouring countries to notify them in advance about the timing of each oral vaccination campaign. Information about rabies and vaccination campaigns of oral vaccination of foxes and raccoon dogs are available on the website of the Slovak state veterinary and food Administration, The public (citizens) are informed via public channels (newspaper, TV, radio, leaflets- also in cooperation with representatives of cities (mayors), meetings with hunters, information for breeders of animals (info from privat veterinarians). Awareness raising (AR) activities (awareness campaign) are limited to:

(i) purchase of services to print leaflets and posters;
(ii) purchase of information road panels;
(iii) **purchase of production and broadcasting of radio, television and internet spots**
(iv)

(e)the measures to be implemented to reduce the contact with infected animals;

Pets:

1. for susceptible carnivorous animals older than three months, mandatory preventive vaccination and regular revaccination of carnivorous animals according to the vaccination scheme of the manufacturer of the registered vaccine used (1x per year, 1x every 2 years or 1x every 3 years),
2. mandatory identification and registration of all dogs, cats and ferrets during relocation,
3. mandatory identification (permanent marking) of dogs before the first change of owner, but no later than 12 weeks of age and keeping the dog's identification data and owner data in the central register of companion animals
4. certification of compliance with the health conditions for the relocation of carnivores in commercial transactions and when moving them to mass events - seductions (the animal has been marked permanently and unmistakably, the identification data of the dog and the data on the owner of the dog are kept in the central register of companion animals, the animal comes from a registered farm in which according to official information, during the period of 30 days before departure, no rabies virus infection was reported, the animal older than 3 months was vaccinated against rabies, which means that more than 21 days have passed since the last vaccination against rabies, but less than the period of effectiveness of vaccination according to the vaccination schedule specified by the manufacturer),

5. monitoring the occurrence of rabies by laboratory examination of dead domestic animals and euthanized animals showing changes in behavior or other symptoms of rabies,
6. monitoring progress through the program - Veterinary Information System (VIS).

Wild animals:
1. monitoring the occurrence of rabies by laboratory examination of all dead wild animals and caught wild animals showing changes in behavior, at the time of checking the effectiveness of oral vaccination of foxes against rabies, also every caught fox,
2. conducting oral vaccination of foxes against rabies in two separate campaigns per year,
3. monitoring progress through the VIS programme.
4. enhanced passive surveillance

In the event of an injury to a vaccinated animal (an animal vaccinated against rabies is considered a vaccinated animal if, in the case of primary vaccination, a longer time has passed since the date of vaccination than the time for inducing immunity declared by the vaccine manufacturer and shorter than the effective time of the rabies vaccination and in the case revaccination, repeated vaccination was carried out during the validity of the previous vaccination against rabies) to another animal positive for rabies, to an unknown domestic or wild animal the relevant DVFA will decide on the next procedure.

Districts: Trebišov, Michalovce, Vranov nad Topľou, Humenné and Svidnik (under eradication programme) which covers regions: Humenné, Medzilaborce, Snina, Svidník, Stropkov, Vranov nad Topľou, Michalovce, Sobrance, Trebišov

before commercial movement of carnivores susceptible to rabies (dogs, cats, ferrets) from the mentioned regions to other regions within the Slovak Republic, in addition to the legal requirements for identification and registration of animals and vaccination against rabies, the following additional requirements must also be met:
Require the animal owner to take samples for anti-rabies antibody testing in an accredited laboratory for anti-rabies antibody testing - by the titration method of neutralizing antibodies, from the owner of animals vaccinated against rabies before moving.

a) In case of confirmation of the titer level of antibodies against rabies equal to and higher than 0.5 IU.ml-1 by the titration method of neutralizing antibodies, the animal is considered to be sufficiently protected (insusceptible) against rabies and DVFA - according to the requirements and recommendations of WHO and WOAH (OIE) can give consent to move the animal out of the protection zone before the 3-month protection period expires/elapse
In the case of dogs, cats and ferrets, the result of the anti-rabies antibody titre examination must be entered in the pet passport by a veterinarian authorized to issue pet passports in section no. VI. of pet passport

b) In case of confirmation of the titre level of antibodies against rabies lower than 0.5 IU.ml-1 by the titration method of neutralizing antibodies, the animal is considered to be susceptible to rabies according to the requirements and recommendations of WHO and WOAH (OIE) and is not possible in any case move out of the focus and protection zone before the 3-month protection period expires.
In such a case, the RVPS will order revaccination against rabies.

Subsequently, the animal can be moved under the following conditions:

I. after 30 days from the revaccination against rabies, samples will be collected for the examination of antibodies against rabies. In case of confirmation of the level of antibodies against rabies equal to and higher than 0.5 IU.ml-1 by the titration method of neutralizing antibodies, the animal is considered sufficiently protected (insusceptible) against rabies according to the requirements and recommendations of WHO and WOAH (OIE) and can be relocated ,
II. in the case of dogs, cats and ferrets, the result of the anti-rabies antibody titre examination must be entered in the pet passport by a veterinarian authorized to issue pet passports in section no. VI. Of the pet passport.

Before commercial movement of carnivores susceptible to rabies (dogs, cats, ferrets) from the mentioned districts to other member countries and third countries, it is necessary:
- to demand from the owner of the animal additional requirements for relocation, namely the result for the examination of the titre of antibodies against rabies and also
- meet the requirements for the movement of pet animals according to European Parliament and Council (EU) no. 576/2013 of June 12, 2013 on the non-commercial movement of companion animals and the repeal of Regulation (EC) No. 998/2003 (see letter E, points 1 to 5 and point 7).

Before non-commercial movement of susceptible carnivorous animals to rabies (dogs, cats, ferrets) from the mentioned regions to other regions within the Slovak Republic and their return to the mentioned regions and vice versa, it is necessary to fulfill the legal obligations for the identification and registration of companion animals and dogs and vaccination against rabies, which are:

a) ensure a permanent marking of a dog bred in the territory of the Slovak Republic before the first change of owner, but no later than 12 weeks of age and enter the identification data of the dog and the data about the owner of the dog in the central register of companion animals, according to article 19 of Act no. 39/2007 Coll.
b) ensure mandatory preventive vaccination and regular revaccination of animals older than three months according to the vaccination scheme of the manufacturer of the registered vaccine used (1x per year, 1x every 2 years or 1x every 3 years) accorrding to Article 17 par. 5 of Act 39/2007 Coll.

(f)the coordinated measures with other Member States or third countries, where relevant.

- **The reporting of the positive cases to the neighboring countries**
- **Information from the central veterinary authority of the Slovak Republic to the EC and all MS + surrounding III. countires regarding regime applied by entering/crossing the border with UA**
- **Information exchange in the tool GF-TAD for rabies**
- **Separate information to all neighboring countring in relation to starting and performing the oral vaccination of foxes incl. description of the vaccinated area (in accordance with this eradication programme)**

6.A description of the organisation, supervision and roles of the parties involved in the eradication programme including at least:

a) the authorities in charge of coordinating and supervising the implementation of the programme;
***Ministry of Agriculture and Rural Development of the Slovak Republic* - approves**

eradication programmes (Art. 5(f) and 46 of the Act No. 39/2007 Coll. on veterinary care as amended; (hereinafter only "Act No. 39/2007 Coll.")

***State Veterinary and Food Administration of the Slovak Republic (SVFA*) –drafts eradication programmes (Art. 6(5)(f) and 46 of the Act 39/2007 Coll.) and manages, directs and controls the performance of the state administration by the District Veterinary and Food Administrations (DVFA`s) (Art. 6(2)(a) of the Act 39/2007 Coll.)**

Veterinary authorities (SVFA, DVFA`s) – order measures in the case of suspicion of disease or in the case of the outbreak according to drawn up and approved programmes (Art. 17(3) and (4) of the Act 39/2007 Coll.) as well as co-ordinate, control and evaluate the oral vaccination programme.

(b)responsibilities of all stakeholders involved.

BIOVETA - vaccine delivery and storage before distribution in the field

AERO SLOVAKIA – plane distribution of the vaccines

SLOVAK HUNTING CHAMBER- the members are helping by the hand distribution of the vaccines in the cities agglomerations (Prešov, Košice- city)

7. The estimated duration of the eradication programme.

At least 24 months , then the territory under programme, in case of favourable situation could be reverted again in the free status – as well as to recover the free status at WOAH level (current NON Active status to change into active) + to change the status accorrding the EU legislation (2021/620/EC)

8.The intermediate targets of the eradication programme including at least:

(a)the expected annual decrease of the number of outbreaks;

We do not envisage any further spread by having/applying strenghted d measures in domestic population however by taking into account , but it can not be excluded (taking into account the rabies status in Ukraine). Nevertheless by applying the programme the risk might be minimized.

(b)the expected number of confirmed outbreaks in areas with outbreaks during the previous year;

zero

(c) the expected percentage of sero-conversion in targeted animal populations;

at least 40%*

(d) the expected percentage of vaccine uptake in animals of the targeted species.

at least 50%*

***By having the red fox population in higher figures, because of very good conditions for their reproduction and very good health status Vis a Vis the number of vaccine doses distributed**