



EUROPEAN COMMISSION¹
HEALTH & CONSUMERS DIRECTORATE-GENERAL

Directorate G – Veterinary and International Affairs
Unit G5: Veterinary programmes

SANCO/10783/2013

REPORT ON THE
**TASK FORCE MEETING OF THE
RABIES SUBGROUP**

11 – 12 December 2012

Warsaw, Poland

REPORT ON THE MEETING
OF THE TASK FORCE RABIES SUBGROUP

OBJECTIVE	To improve animal disease eradication and the cost-benefit ratio of animal disease eradication by producing conclusions, recommendations and specific action proposals
DATE OF MEETING	11-12 December 2012
VENUE	Ministry of Agriculture and Rural Development Warsaw, Poland
AGENDA	In annex
PARTICIPANTS	
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Private experts:	Florence Cliquet (ANSES, Nancy, France), Thomas Müller (Friedrich Loeffler Institute, Federal Research Institute for Animal Health, Insel Riems, Germany)
Representatives of Polish Veterinary Services:	J.M. Žmudzinski (National Veterinary Research Institute, Pulawy), K. Jazdzewski, K. Florek, K. Wadecka (General Veterinary Inspectorate), J. Holda, M. Skowonek (Ministry of Agriculture and Rural Development)
Observers (Participation with the support of TAIEX):	A. Metlin (Russian Federal Centre for Animal Health), I. Golovaty (Veterinary Service of the Kaliningrad Region of the Russian Federation (RF)), A.V. Pereverzeva (Veterinary Service of the Karelia Region of the RF), D.A. Mamleeva (St. Petersburg Veterinary Laboratory), O. Klymenok, (State Veterinary and Phytosanitary Service of Ukraine), I. Smilhin (Ministry of Food and Agriculture of the Republic of Belarus)
European Commission-Health and Consumers DG (DG SANCO):	Valentina Piazza, Head of Sector "Veterinary", Unit G5 Panayiotis Demetriou, Unit G5

Opening

Dr Krzysztof Jazdzewski, Deputy Head of the General Veterinary Inspectorate of the Polish Republic opened the two-day meeting with a salutatory speech. Prelude of meeting from European Commission side was followed by the short introduction of the participants.

Information concerning current epidemiological situation of rabies in the countries and regions attending the meeting was provided.

Presentations by participating countries

Estonia: As a result of wildlife oral rabies vaccination (ORV) conducted twice a year and covering the entire area of Estonia from 2006 up to 2010, the number of rabies cases decreased very rapidly from 114 to 0. Within the last five-year period a total of seven rabies cases have been diagnosed. The last indigenous case of rabies in the country occurred in March 2008. In summer 2009 three rabid foxes were found close to the Estonian-Russian Federation (RF) border on the south-east of the country and in January 2011 one rabid raccoon dog in the same area, less than 1 km from the border. Since then, despite the intensified surveillance and testing of all rabies-suspected wild- and domestic animals, no rabies cases have been found. Starting from year 2011, ORV has been restricted to buffer-zones with a depth of 20-50 km along the areas bordering infected countries. The ORV covers an area of 9325 km² in the north- east, south-east and southern borders of country. Bait uptake in year 2011 was 85% among raccoon dogs and 80% in foxes. Immunisation rates assessed by ELISA test were 47% in raccoon dogs and 40 % in foxes.

Finland: To prevent incursions of rabies from the Russian Federation (RF), Finland has been implementing ORV in the south-east areas along the border since 1991. The present strategy foresees the distribution of 20 baits (SAG2) per km² twice a year. To monitor the efficacy of vaccination, tests for the detection of biomarker and of rabies specific antibodies were performed on target species. In March 2011 a new agreement with the Leningrad Region of the RF was concluded including EU co-financed ORV of wildlife in the RF areas along the border. Due to the change in the epidemiological situation in the Karelia Republic of the RF, the Finnish ORV programme was modified in September 2011. As rabies cases were diagnosed in the Republic of Karelia ~ 150 km from the border, the width of the border vaccination zone was doubled comparing to previous years. In addition, surveillance for rabies-infection was intensified in response to the sudden unfavorable developments on the rabies situation in neighboring region. All rabies investigations in suspected animals and targeted wildlife (incl. bats) have given negative results. In December 2011, the Karelian Republic of the RF and Finland signed an agreement to create and maintain a rabies buffer zone in the area of the Karelia bordering Finland.

Latvia: Since the start in 2005 of ORV using fixed-wing aircraft in the whole country, the rabies epidemiological situation has significantly improved. While in 2010 16 cases of rabies were detected in different locations of country, in the course of last two years, only three rabies cases have been diagnosed. Two out of the three abovementioned cases were located in less than 5 km from the Belarus border. The other rabies case was confirmed in a dog originating from the central part of the country in late 2012. Due to the tender formalities in autumn 2011 vaccination campaign was delayed and consequently vaccination was performed only in the 75% of territory. Flight line distance has been 500 m in all areas starting from year 2011

while bait density 25 per km². Decision 2011/807/EC has approved the 2012 EU co-financed Latvian rabies programme to cover buffer zone vaccination in areas of Belarus bordering Latvia. Abovementioned are covered 10 850 km², strategy in use was harmonized with Lithuanian ORV programme.

Lithuania: Large-scale ORV has been implemented in the country since 2006. Vaccine baits have been distributed using fixed-wing aircraft applying a flight line distance of 1000 meters. In areas bordering Belarus a reduced flight line distance of 500 meters is used. In the years 2011 and 2012 SAD B19 vaccine baits had been distributed using a bait density of 22 baits per km². In 2010 and 2011, 33 and 14 rabies cases were detected in the country, respectively. In 2012, five rabies cases were diagnosed in domestic animals and wildlife all originating from eastern and south-eastern areas bordering Belarus. Monitoring of ORV campaigns in 2012 revealed a bait-uptake and immunization rate of 82% and 53% in target animals (foxes and raccoon dogs), respectively. The EU co-financed programme of Lithuania includes since 2011 the bi-annual implementation of ORV in bordering areas of Belarus, covering approximately 33,000 km².

Slovakia: Rabies infection has been widespread in red fox populations in Slovakia in the past. ORV was implemented in a limited area during the period from 1992 to 1993 while campaigns were extended to the whole territory since 1994. Despite the systematic vaccine distribution the disease was not controlled, probably due to the quality of the vaccine used. That is why in year 2000 a new strategy was introduced based on a homogeneous aerial distribution of vaccine baits containing the SAD Bern strain. The last positive case of rabies was diagnosed in western Slovakia in August 2006. Due to the favourable rabies situation, starting from year 2010 the vaccination area was reduced and ORV activities restricted to eastern regions of the country bordering infected areas in neighbouring countries. During the past seven years annual samples of 2600 to 3500 foxes were collected randomly from different areas of country and tested for rabies infection. During the same period, suspected animals have been also tested (between 35 and 308 annually). The negative results of all the above mentioned investigations prove the absence of disease.

Russian Federation:

Rabies is endemic throughout great parts of the Russian Federation (RF). For the past 30 years the number of rabies cases has been increasing. During the past ten years between 1406 and 5503 rabies cases per year were detected mostly in the European part of the RF. In 2011 six human deaths were recorded. There is a direct correlation between the number of animals submitted for rabies routine diagnosis and those tested rabies positive. Since 2012 a plan with surveillance targets for the different regions has been put in place so that there is a clearer picture on the disease trends in different parts of the RF territory.

Kaliningrad Region of the RF:

The main reservoir of rabies in the region is the red fox. In recent years 25-70 cases of rabies are registered annually. Vaccination of pet animals against rabies is compulsory, to prevent spread of the disease to humans and domestic animals. Surveillance is based on investigations of rabies-suspected animals and wild carnivores found dead. Since the year 2010, the number of infected animals is decreasing, being 43 in 2010 and 21 in 2011; in 2012 11 cases have been diagnosed until 25th of October. Following the confirmation of a rabies case, quarantine is established in the affected area, surveillance is enhanced and prophylactic

vaccination is enforced among the domestic animals. A rabies programme co-financed by the EU has been implemented in the entire territory of Kaliningrad since autumn 2007. In years 2007-2009 ORV was implemented once a year. Since 2010, ORV campaigns have been conducted in spring and autumn. Since 2009 the distribution of baits is principally carried out from air. The number of baits distributed is 25 baits/km² and the distance between parallel flight lines is 500 m. Between 2007 and 2011 the vaccine uptake rate ranged between 40 and 65%, while the seroconversion rate ranged between 37 and 47%.

Leningrad Region of the RF:

The rabies epizootic situation in the region has been favourable during the recent 25 years. The last case of rabies in wild animals was recorded in 1987 in the Lomonosov district. Continuous efforts are made to maintain public awareness on rabies and to supervise and control the implementation of relevant legislation such as the prophylactic vaccination of pet animals.

To prevent the introduction of rabies from infected bordering RF regions, ORV is conducted in zones along the administrative borders. In addition, ORV is implemented along the Finnish border since 2000. ORV is conducted in the region via manual distribution of vaccines Oralrabivak and Sinrab at a density of 20-25 baits/km². For 2013 there are plans to introduce aerial bait-distribution along the Finnish borders. Possible pre-funding through the EU co-financed Finnish programme would considerably help the achievement of this task. Rabies surveillance is based on investigation of suspect animals. For the monitoring of ORV campaigns, 136 and 63 target animals were tested in 2010 and 2011 respectively. The resulting bait-uptake rate was at 70-80%.

Karelia Republic of the RF:

The region has been free from rabies infection in period 1954-2010. However, in autumn 2011 rabies was detected in the centre of region in a grazing cattle herd following a wolf attack. Since year 2000, Karelia and Finland have co-operated to conduct ORV in the southern part of the bordering areas of the Karelian territory. Due to delays relating to legal formalities these activities were not implemented in 2011. In December 2011 Karelia and Finland concluded an agreement to create and maintain a rabies buffer zone. In 2012 31 000 doses of vaccine Sinrab (20-25 baits/km²) were manually distributed in a 25 Km wide buffer zone with the help of GPS devices and maps. In 2012 56 suspect animals were tested for rabies surveillance so far with no positive result.

Belarus:

Within the past ten years an average of one thousand rabies cases have been diagnosed annually in Belarus, with peaks in years 2006 (1587 cases) and 2011 (1372 cases). The majority (~70%) of cases is diagnosed in foxes. These cases are distributed uniformly in the territory, with exception of eastern areas, where infection pressure is lower. A five year plan (2012-2016) for rabies control has been elaborated and approved by the Belarusian government. The plan includes ORV, systematic preventive vaccination of pet animals, wild carnivore and stray animal population control, assuring emergency post-exposure prophylaxis for humans involved in animal bite accidents and enhancing awareness among the population. ORV started to be implemented in 2011 with EU financial support provided through the Lithuanian rabies programme. The monitoring of ORV in 2011 revealed a bait uptake of 59% after the spring campaign and 58% after the autumn campaign. Seroconversion rates were 30% in spring and 40% in autumn. In 2012 58,890 km² of Belarusian territory bordering EU Member States (Latvia, Lithuania) was covered by the aerial distribution of 1.4 million vaccine baits.

Ukraine:

The analysis of disease dynamics in Ukraine during last 15 years shows that the number of detected cases has increased up to ten times. Since 2008, a slight decrease is observed as a result of the implementation of ORV in parts of the country. More than half of all diagnosed cases are found in domestic animals (mainly cats and dogs). It is obligatory to immunize the dog population whereas cats are vaccinated in endangered areas. Livestock is vaccinated in areas surrounding in outbreak sites. The majority of cases in wildlife occur in foxes. ORV has been conducted twice a year since 2006 in limited areas, where pressure of infection is higher. Due to economic constraints, the area covered with ORV was reduced in 2010, covering solely areas on the east of river Dnieper. The oral vaccine used (Brovarabies) is produced locally using the VRG- strain. In June 2012 an agreement was signed between Poland and Ukraine on the implementation of ORV along the border, funded under the EU approved Polish programme. The vaccination area covers 26,400 km² of territory in Volynska, Lvivska and Zakarpatska regions. Vaccine is distributed by aircraft, with 1 km distance between flight lines and a vaccine bait density of 25 baits per km².

Presentations by host country

Epidemiological evolution of rabies in Poland in the recent decades

In the late 1940s rabies was spread in Poland mainly by dogs. As a result of obligatory vaccination of the dog population the situation improved in the early 1950s. Cases of rabies started to occur with increased frequency in wildlife in the late 1950s. The evolution of rabies infection in the country can be observed in Figure 1.

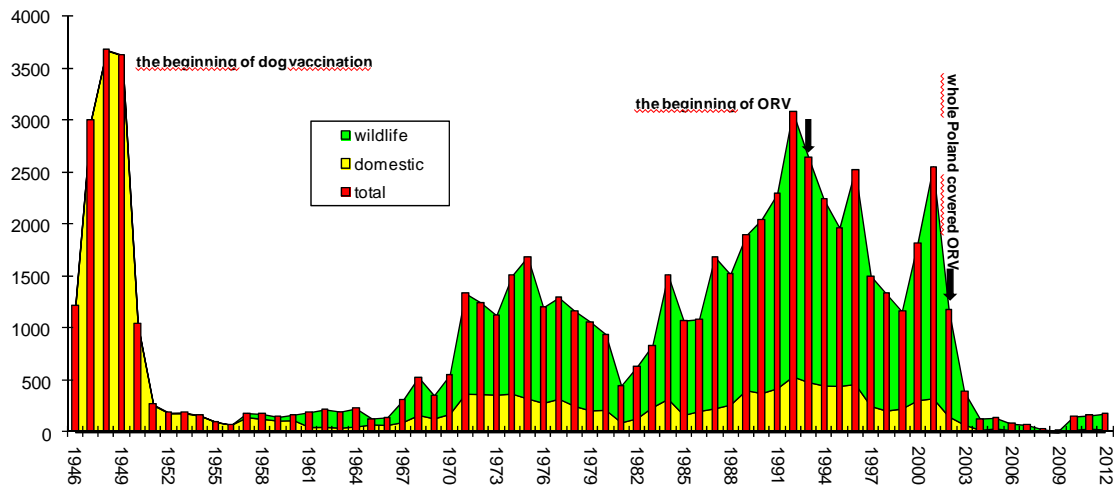


Figure 1: Rabies cases in 1946-2012

Since the year 2000, 84.4% of the cases occurred in wildlife and 14.7% in domestic animals. With respect to wildlife, the majority of rabies has been diagnosed in red foxes (72%). Cases in raccoon dogs constitute 7% of all cases, occurring mainly in the northern part of country. Among domestic animals the highest rate of rabies over the last 13 years has been recorded in cats (5.8%), cattle (5.5%) and dogs (3.2%). The number of suspected animals investigated and results of passive surveillance in the period between 2005 and October 2012 can be observed in Figure 2.

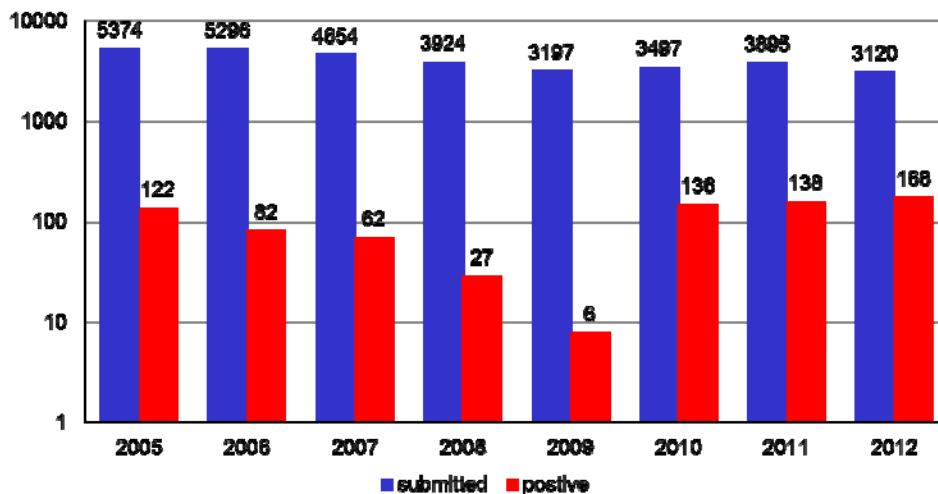


Figure 2: Surveillance of rabies 2005- 2012 (31.10.)

Foxes hunted for the monitoring of ORV (8 foxes per 100 km²) were also tested for virus detection. There has been a number of rabies cases diagnosed among clinically healthy animals representing approximately 0.08% of the animals tested. See detailed data in Figure 3.

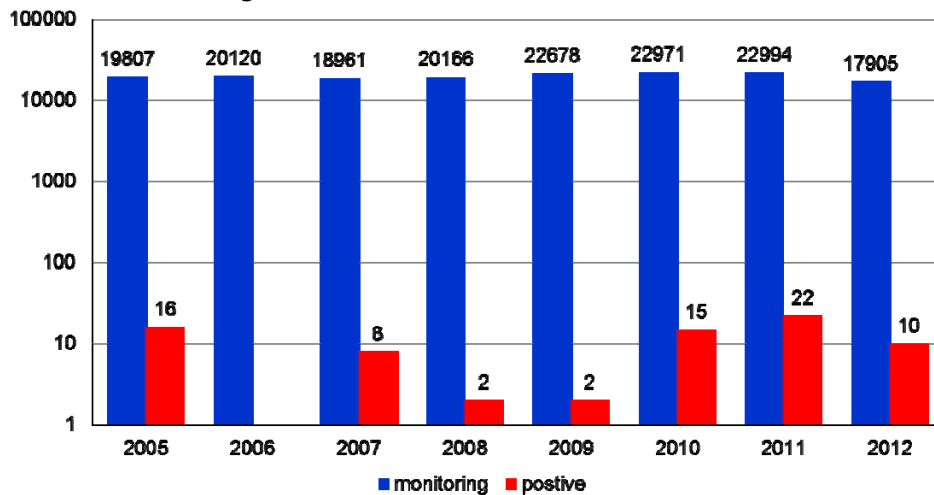


Figure 3: Investigations and positive results among hunted foxes 2005- 2012 (31.10.)

The rabies eradication programme was elaborated in Poland in 1991-1992 whereas implementation started in 1993 in 6 western regions bordering Germany. In the subsequent years the vaccinated area was gradually extended to more regions. By the end of 1999, rabies was brought under control in the regions bordering Germany and the Czech Republic. Unfortunately, there was a deterioration of the situation in the following years. The number of cases increased once again and movement of the rabies wave front back to the western and southern direction was observed.

Since 2002 the whole territory of Poland has been covered by ORV programme and in the following years, the number of rabies cases decreased significantly. However, residual foci of rabies persisted in the Wielkopolska region and at the border area with Germany and the Czech Republic. Because of that, in 2007 modifications were introduced to the distribution of the vaccine with favourable results.

The lowest level of infection was ascertained in year 2009 with 6 wildlife rabies cases (plus 2 cases in bats). All wildlife related cases were located in regions bordering Belarus or Ukraine. In 2010 there was a dramatic change in the rabies epizootic situation with 151 rabies cases recorded, the 118 of which in the Malopolskie voivodeship in southern Poland, a region being free from infection for 8 years. The vast majority of cases were recorded in the red fox – 94 in total. In the following ORV campaigns the number of vaccine baits was increased to 40 baits/km² in the area of outbreak which resulted in reducing the number of cases of rabies in the Malopolskie voivodeship. However, several cases occurred in neighbouring Podkarpackie region in 2011, despite the uninterrupted implementation of ORV. In 2012, until the end of November, 193 rabies cases were diagnosed in Poland mainly in the Podkarpackie region. In addition, a small number of rabies cases were diagnosed along the north-east and east border of the country as a result of infection pressure from bordering countries.

Rabies routine diagnosis is performed by 16 regional veterinary laboratories. The NRL for Rabies at the National Veterinary Research Institute in Pulawy is responsible

for confirmatory testing of fluorescent antibody test (FAT) inconclusive samples submitted from regional laboratories, the characterization of rabies virus isolates. The rabies tissue culture inoculation test (RTCIT) and mouse inoculation test (MIT) are used by the NRL as confirmatory tests in case of inconclusive and negative results obtained in FAT. Real-time polymerase-chain reaction (RT-PCR) is also used by the NRL for testing of decomposed tissue samples.

Organization and implementation of oral vaccination campaigns in Poland

To implement ORV programme the General Veterinary Inspectorate is co-operating with the regional and district veterinary offices, the regional laboratories, the NRL in Pulawy and the Polish Hunters Organisation. There are 16 regions (voivodships) in Poland. The General Veterinary Inspectorate has the responsibility to prepare the rabies eradication programme including the strategy of ORV for wildlife. While elaborating the strategy, the opinions of the regional veterinary offices and the NRL are taken into consideration. The finalised strategy includes the vaccine bait density, the flight distances, the number and approximate dates of campaigns per region, etc. The general coordination of the implementation of the programme and the supervision of regional veterinary officers is conducted at central level. Tendering to purchase oral vaccine and distribution service is conducted at regional level. The practical organisation of ORV and analysis of vaccination monitoring results as well as the supervision over district veterinary officers and regional laboratories is under the responsibility of the regional veterinary offices. The district veterinary officers are responsible for activities in case of rabies outbreaks, the collection of samples from suspected animals and foxes shot by hunters to monitor ORV, including delivery of the samples to regional laboratories. Diagnostic work with samples taken from rabies suspected animals and from foxes shot in the framework of monitoring is performed by regional laboratories.

The NRL is responsible for the analysis of doubtful samples sent by regional laboratories, the genotyping of rabies virus isolates and the differentiation between field and vaccine rabies virus strains. The NRL is also, performing tests for the quality of vaccine, organising trainings and proficiency tests for regional laboratories and presenting scientific opinions on rabies and eradication of the disease.

The ORV strategy in each region (number of baits distributed, distance between flight lines) depends on epizootic situation, the characteristics of area (e.g. forestation level, density of target animals) and the distribution method(s) used. According to the Hunters Organisation the population of foxes is estimated to be ~210 000 individuals in the whole country. The minimum bait density applied is 20 baits per km² and the maximum distance between flight lines 1 km whilst in high risk areas as a rule the flight line distance is 500 m and the bait density 30 per km². Oral vaccines based on strains SAD B19 and SAD Bern are used in Poland. The maintenance of the cold chain of the oral vaccine is checked at all stages of ORV. Vaccine is distributed evenly in the area covered by ORV. Basic method of vaccine distribution is through fixed-wing aircraft, executed by aeroclubs. Manual distribution is performed in borders of municipal agglomerations, dumping grounds, parks in cities or cemeteries by veterinary services personnel or hunters supervised by veterinary service. In general, two vaccination campaigns are conducted annually; in spring (April/May) and in autumn (September/October). According to the Polish legislation ORV can be implemented once a year in a region if there has been no outbreaks in this region and any neighbouring regions in the previous two years. It is allowed to stop ORV in a region only if there have been no outbreaks in its territory

nor in any adjacent regions within previous three years. Information campaigns are launched at least 10 days before the beginning of the ORV campaigns targeting interested parties and the general public. The personnel of the regional veterinary inspectorates check the documentation concerning the aerial distribution directly after reception. Results of vaccination campaign are analysed at regional and central level and conclusions are used for making improvements to future campaigns.

Effectiveness monitoring of ORV in Poland, organization implementation and results

An Act of the Council of Ministers concerning the ORV implementation and monitoring is in force. The supervision of those activities is based on above mentioned legal act and the monitoring of fox vaccination is one of the fundamental parts of annual rabies eradication programme.

Right before distribution, samples of vaccine baits from every batch are sent to the NRL. The virus titre of the vaccine, the volume of virus suspension in the blister and the bait integrity are evaluated in the NRL. The results of these investigations should be available before the start of the ORV and vaccine batches not fulfilling the requirements are rejected. Exemplars of vaccine baits are also placed inside wire-cages in field conditions. 10 days later these baits are submitted for investigations to the NRL. The results of investigations of batches used in years 2010-2011 were demonstrated.

To monitor the efficacy of ORV 8 foxes/100 km² per year are hunted and sent via the regional veterinary service to the 6 regional laboratories involved in ORV monitoring. A hunting plan calculated on the basis of the size of the area of the region is prescribed by veterinary services to the Hunters Organisation. The samples are tested for bait uptake, antibody titre as well as for rabies infection.

The number of samples submitted for investigations for detection of bait uptake and seroconversion versus the number of samples fit for testing as well as the number and percentage of positive animals in years 2008-2012 (for 2012 the results are pending and concern the period 01.01-31.10) can be seen in tables 1 and 2.

Year	TC results – 5 year summary							
	plan	Submitted for testing No	%	Fit for testing		Positive		
				No	%	No	% submit	% fit for test
2008	21 393	20 166	94.26	19 788	98.13	17 060	84.60	86.21
2009	21 393	22 678	106.01	22 096	97.43	19 604	86.45	88.72
2010	21 393	22 971	107.38	22 486	97.89	20 047	87.27	89.15
2011	21 621	22 994	106.35	22 421	97.51	19 393	84.34	86.49
2012*	21 621	17 905*	82.81*	14 255	79.61*	12 394	69.22*	86.94
Σ	107 421	106 714	99.34	101 046	94.69	88 498	82.93	87.58

Table 1: Results of investigations for the presence of biomarker 2008-2012

Year	Ab Rabies results – 5 year summary							
	Plan	Submitted for testing No	%	Fit for testing		Positive		
				No	%	No	% submit	% fit for test
2008	21 393	20 166	94.26	14 744	73.11	11 984	59.43	81.28
2009	21 393	22 678	106.01	16 805	76.05	13 738	60.58	81.75
2010	21 393	22 971	107.38	16 319	71.04	13 855	60.32	84.90
2011	21 621	22 994	106.35	16 130	70.15	12 823	55.77	79.50
2012*	21 621	17 905*	82.81*	9 973	55.7*	8 037	44.89*	80.59
Σ	107 421	106 714	99.34	73 971	69.32	60 437	56.63	81.70

Table 2: Results of serological investigations 2008-2012

Rabies spread in previously freed Polish regions (Malopolskie, Warmińsko-Mazurskie, Podkarpackie): facts, findings and reaction.

In 2010 the successful rabies eradication programme suffered a setback, when in August rabies resurged in a fox in Malopolskie region in south-eastern Poland, an area which had been free from rabies since 2003. Out of 151 cases diagnosed in Poland in 2010, 118 cases were located in the Malopolskie region, whilst 94 of those were in foxes. Phylogenetic analysis of rabies virus isolates from this particular area showed a high sequence identity with the rabies virus strains circulating in Ukraine and Romania suggesting an epidemiological link. It was speculated by the Polish veterinary authorities that illegal import of pet animals could have been the possible source of origin of the outbreak in southern Poland.

In the affected area general measures were applied to limit the spread of virus: killing of suspected and contact animals where appropriate, emergency vaccination of domestic animals, establishment of surveillance zone, organisation of awareness campaigns and preventive vaccination of cats. To control the outbreak, additional aerial ORV with increased baiting-density (24/km² of Lysvulpen baits) was carried out as an extension of the 2010 autumn campaign on the territory of 8 districts or parts thereof. The area covered with supplementary ORV was 5 029 km² in total. Around 25% of this area was vaccinated using flight line distances reduced to 500 m. In the years 2011 and 2012, ORV was implemented twice a year by dropping 30 baits per km² and using flight line distances of 500 m in the whole territory of the Malopolskie region. In 2011 60 cases have been detected in the region whereas in 2012 (until end of October) 7 cases were recorded. The results of the monitoring of fox vaccination campaigns in the territory of Malopolskie region in 2008-2012 showed a bait uptake of 88-94% among tested foxes while the seroconversion rates were 79-88%. The primary origin of the virus remains unknown. Enquiries on the 2010 ORV campaign (conformity of the virus titre in the baits, distribution data, monitoring results, fox density etc.) showed no abnormalities or violation of procedure rules. It is supposed that a severe flood occurring just after the 2010 spring campaign prevented the appropriate immunization of foxes.

Although the corrective actions resulted in a decrease of rabies cases in the Malopolskie voivodeship, the rabies front spread to the neighbouring voivodeship of Podkarpackie. Currently, the Podkarpackie voivodeship is the region most severely affected by rabies in Poland. Since 2011 the number of rabies cases (63 in total) has been increasing, especially in central and western districts of the region. Genetic characterization identified all rabies viruses isolated as field strains.

During the 2012 spring and autumn ORV campaigns, 30 baits / km² were distributed using fixed-wing aircraft with flight line distances of 500 m. Additionally, in areas with high rabies prevalence or with high fox density complementary hand distribution of baits was conducted in particular in non-flying zones. The fox density in the region was supposed to be as high as 0.74 foxes/km² and 0.77 foxes/km² in 2011 and 2012, respectively. Analysis of flight lines showed a sufficient coverage and no deviations from planned flight routes for both spring and autumn ORV campaigns. Vaccine titres obtained by the NRL met the requirements. Bait uptake in foxes was 83% and 79% in 2011 and 2012, respectively. Seroconversion rates in foxes were about 62 % and 74% in 2011 and 2012, respectively. Until the end of October 2012, a total of 152 rabies cases were diagnosed in the region.

The Warmińsko-Mazurskie region, situated in northern Poland, is bordering the Kaliningrad oblast of RF. The first rabies case in this region since 2008 occurred in

June 2011. In 2011 a total 6 cases were detected in the region (4 foxes, a raccoon dog and a cow). The responsible rabies virus strain has been identified to be a field strain of genotype 1. Most cases were limited to an area of 13 km². In the frame of ORV campaign in autumn 2011, very high baiting density (40 baits/km²) and flight line distances of 500 m were applied in the affected area. 30 baits/km² were dropped with similar flight line distances in areas bordering the Kaliningrad Region. In spring and autumn 2012 the northern part of region was vaccinated with a density of 30 baits per km², using flight line distances of 500 m. In 2012, infection was confirmed in one fox.

The origin of the virus responsible for the above outbreaks has not been identified, but the analysis of relevant epidemiological data, showed that the results of both the bait-uptake and the seroconversion rate ascertained by laboratory investigations were remarkably lower in the frame of ORV monitoring of year 2011, comparing to those found in 2009 and 2010.

In addition, presentations of rabies experts of EURL for Rabies and WHO Collaborating Centre for Rabies and representatives of the European Commission were given:

- Dr. Florence Cliquet, ANSES Nancy, France:
 - o [Veterinary Authority quality controls on the delivery and handling of vaccines and on the implementation of oral vaccine distribution](#)
 - o [Global requirements for laboratory accreditation in rabies diagnostic methods](#)
- Thomas Müller, FLI, Germany:
 - o [Surveillance for rabies – Best practices and challenges](#)
- European Commission DG SANCO:
 - o [EU external funding for rabies](#)

CONCLUSIONS AND RECOMMENDATIONS OF THE TASK FORCE

Conclusions

1. Poland has made considerable progress towards nationwide rabies elimination. The Polish oral rabies vaccination (ORV) programme has succeeded in virtually eliminating terrestrial rabies from the western and central parts of the country. Yet, since 2002 the entire territory of Poland has been under vaccination.
2. No human case of rabies has been reported since 2002.
3. There is a permanent threat of re-incursion of rabies from neighboring non-EU countries.
4. An adequate system of laboratory-based rabies surveillance and ORV monitoring has been put in place and is well supervised at the local level. In addition, quality controls on the delivery and handling of vaccine baits have been implemented.
5. Sampling for rabies surveillance is following international recommendations (WHO, EU).
6. Rabies diagnosis is well organized at a local level and supervised by the NRL. The NRL participates in international proficiency testing and inter-laboratory comparison tests as organized by the EU-RL for rabies and organizes national ring trials on a regular basis.
7. Most of the recommendations given at the 2006 TF subgroup meeting have been followed.
8. There has been a worrisome increase of rabies cases in the south-eastern part of the country since 2010, suggesting that the disease is still endemic in those areas.
9. Recently ORV activities in residual foci and high risk areas along common borders with neighboring non-EU countries have been reinforced.
10. A bilateral agreement with Ukraine has recently enabled the implementation of ORV in Ukrainian areas bordering Poland under the EU co-funded Polish rabies programme.

Recommendations

1. As from now efforts in rabies control and elimination should concentrate on residual foci and higher risk areas bordering infected non-EU countries in the east of the country whereas vaccination should be discontinued in western parts of Poland.
2. ORV areas should be defined using a risk-based approach taking into account the occurrence of terrestrial rabies over at least the past two years, the presence of barriers to the movement of reservoir species independent of administrative units as well as other relevant epidemiological information.
3. The national legislation on rabies control should be amended as soon as possible to allow more flexibility in defining areas (i) to be covered by ORV, (ii) where ORV can be ceased and (ii) in taking corrective actions in cases of emergency situation.

4. Immediate collation and analysis of geo-coordinates of bait droppings after aerial bait distribution as well as results of ORV monitoring and rabies surveillance should be initiated to allow real-time evaluation of vaccination coverage during each campaign (achieved bait density on the ground, identification of insufficiently baited areas etc), so that corrective actions can be taken in due time, if necessary.
5. Coordination of the ORV programme should be strengthened in particular in the final phase of rabies elimination. Arrangements of ORV activities among neighboring regions (voivodeships) should be enhanced.
6. An ad-hoc advisory group should be set up to assist veterinary authorities in rabies control. In close collaboration with NRL the main tasks of this group should be (i) the evaluation of the correct implementation of ORV campaigns, (ii) in depth setback analysis, (iii) recommendations for corrective actions to be taken in case of emergency, (iv) improvement and adaptation of the vaccination strategy to the prevailing conditions and (v) consultancy service to the ministry. Recommendations of previous TF subgroup meetings should be considered.
7. To ensure conformity of results, the specificity of the established serological assay for monitoring of ORV campaigns should be re-evaluated taking the quality of fox sera into account.
8. As testing healthy animals is likely to give negative results, and is therefore of no value, a risk-based rabies surveillance following EFSA recommendations (focus on indicator animals) should be implemented. For monitoring of ORV campaigns the sample size can be reduced to 4 foxes per 100 km² and year.
9. In case of emergency short-term interval baiting to combat rabies using recommended bait densities (20 – 25 baits/km²) should be considered.
10. In specific ORV areas where the use of fixed-wing aircraft is likely to result in suboptimal vaccination coverage the use of helicopters or additional targeted manual bait distribution should be considered.
11. Poland is encouraged to intensify cooperation with the veterinary authorities of Belarus for establishing an ORV buffer zone in bordering areas of Belarus through the EU co-funded Polish rabies programme.