

EUROPEAN COMMISSION HEALTH & CONSUMERS DIRECTORATE-GENERAL

Unit G5 - Veterinary Programmes

SANCO/10885/2012

Programmes for the eradication, control and monitoring of certain animal diseases and zoonoses

Survey programme for Rabies

Approved* for 2012 by Commission Decision 2011/807/EU

Estonia

^{*} in accordance with Council Decision 2009/470/EC

version: 2.1

1.	<i>Identification</i>	of the	proaramme
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Member state :	EESTI
Disease	Rabies
Species :	Foxes and other wild carnivores
This program is multi annual	no
Request of Community co-financing from beginning of :	2012

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1.1 Contact

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2. Historical data on the epidemiological evolution of the disease

A concise description is given with data on the target population (species, number of herds and animals present and under the programme), the main measures (testing, testing and slaughter, testing and killing, qualification of herds and animals). The information is given for distinct periods if the measures were substantially modified. The information is documented by relevant summary epidemiological tables, graphs or maps.

(max. 32000 chars):

By reports from Russian tsar-time Kiev and Livonian districts were places were rabies frequently occurred. In the 1900 rabies spread all over the country, excluding islands. For 1930 disease was eradicated from North- and Middle Estonia, cases were only in Southern part.

Statistical data about registered rabies cases in animals are available from 1950. According to records, dog-mediated rabies was a common disease in Estonia in the middle of last century. Arising from compulsory vaccination of cats and dogs since 1953, also extermination of stray animals, urban rabies was eradicated for year 1959. No case of disease was reported from 1960 to 1967.

Sylvatic rabies reached Estonian territory from year 1968 and spread rapidly all over the country including islands. Main reservoirs of the disease are red foxes and racoon dogs. Last counting data of foxes are available from year 1995, raccoon dogs have never been counted. According to the data of the Ministry of the Environment, despite of more intensive hunting in recent years, influenced also by need to conduct post-vaccination sampling of target species, number of racoon dogs has continuously shown ascending trend since these species were introduced into Estonian fauna. In year 2007 hunting data, track index (tracks per 1 km) and charge in abundance (hunters estimation) indicated, that number of foxes is slightly decreasing. Charge in abundance indicated that in 2008 population showed very rapid increasing trend, since 2009 showed moderate decreasing, going into side of uprising in 2010 again. Precise data is available concerning hunting-bag: the number of hunted foxes was 9 656 in 2010; analogous number for raccoon dogs was 12 600.

Since 1968 until end of last century, the average number of rabies- positive cases had varied usually between 150 and 300 per year. In the beginning of running century, in years 2000-2005, the number of rabies cases grow very quickly, reaching up to 814 cases in year 2003 (with 315 cases in foxes and 362).

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cases in racoon dogs). Distribution of rabies cases in years 1968-2009 can be followed by chart 1 in Annex.

The structure of rabies infections across species has been relatively stable over these years. During 1968–2009 farm animals accounted for 6-7%, dogs and cats for 9–23% and wild animals for 71–84% of all the cases of illness. In years 1968-2001 red foxes have composed majority of rabies cases, but year-by -year number of racoon dogs infected with rabies has aggravated, composing around 50% of all rabies infections from year 2002 until 2006.

There has been immense general improvement of rabies situation in Estonian territory from the beginning of oral vaccination (OV) of wildlife in part of territory in 2005. Since year 2006, a sudden decrease of rabies cases in all areas could be observed, due to start of OV campaigns in total territory of country. (see figure 1 in Annex)

In 2007 4 positive cases of rabies infection were diagnosed: 2 cows in Lääne and Rapla county, badger in Lääne-Viru county and raccoon dog in Harju county (see figure 2 in Annex). In 2008 three positive rabies cases were found in the beginning of the year: sheep in Rapla county, fox and dog in Harju county (see figure 3 in Annex). Abovementioned have been the last rabies cases in basic area of Estonia until nowadays. With the exception of the areas adjacent to the south-eastern borders with Russia, rabies cases have not been detected in the Estonian territory for already 3 years.

Thereof, the only rabies cases occurred have been three rabid foxes found in summer 2009 in Põlva and Võru county in very close surrounding (less, than 5 km) of Estonian Republic –Russian Federation land border in south-east (see figure 4 in Annex).

In year 2010, for the first time over last 42 years-period, no rabies case has been found.

From the beginning of year 2011 until passing current co-financing application, one rabies case has been found- in \sim 1 km range from south-east border of Republic, when a rabid raccoon dog was discovered in January (see figure 5 in Annex).

The last mortal case of rabies in humans was registered in Estonia in 1986.

3. Description of the submitted programme

A concise description of the programme is given with the main objective(s) (monitoring, control, eradication, qualification of herds and/or regions, reducing prevalence and incidence), the main measures (testing, testing and slaughter, testing and killing, qualification of herds and animals, vaccination), the target animal population and the area(s) of implementation and the definition of a positive case.

(max. 32000 chars):

The State Programme for rabies prevention carried out in Estonia is based on the Infectious Animal Disease Control Act, the Regulation Minister of Agriculture No. 67 "Rabies Control Rules" and the State Programme on Monitoring and Surveillance of Animal Infectious Diseases approved annually by the Director General of Veterinary and Food Board. Two main courses of action are covered by the programme- prevention of rabies among domestic animals and oral vaccination of wildlife against rabies. State Budget funds are used to cover the costs of sampling and laboratory investigations of all domestic and wild animals, recognized as rabies- suspected by authorised veterinarians. Virus investigations are carried out mainly for those wild animals that behave unnaturally and/or enter the premises of households and are killed. All bovine animals with nervous symptoms who have died or who are emergency slaughtered are also tested for rabies. The samples are taken and tested in the laboratory throughout the year.

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Dogs and cats are species regarded as the main source of infection for humans. Vaccination of pets on yearly bases has been compulsory already more, then last half of century. Pursuant of Rabies Control Rules an animal owner is required to ensure that the cats and dogs belonging to him or her are vaccinated. According to amendments in abovementioned regulation, since 20.07.09, it is allowed to make booster vaccination in accordance with instructions described in product information sheet of vaccine used, but not sparser, than 24 months have passed from last vaccination. The vaccination of farm animals that graze on woodland pastures and pastures adjacent to forests is recommended. Animals are vaccinated by veterinary supervisory officials, authorised veterinary surgeons or licensed veterinarians. The cost of the vaccine and vaccination procedure is covered by the State Budget. In year 2012 approximately 80 000 animals (mainly cats and dogs) will be vaccinated against rabies, vaccination of agricultural animals will be carried out only in case of grounded exigency.

First wildlife oral vaccination (OV) campaign was enforced in autumn of 2005 in ~2/3 part of territory of Estonia. Vaccination activities in total territory of Republic were carried out in years 2006-2010. The programme proceeded in these years included distribution of baits twice a year, spring and autumn, in all Estonian area with slight exceptions (urban ranges, roads, water bodies and wet fields). As a rule, in the frames of campaign, 20 baits per km2 were distributed manually by trained stuff from fixed-wing airplanes in are ~43 000 km2. No additional manual distribution from land was carried out. Effectiveness of OV was evaluated after each vaccination period by carrying out specific laboratory investigations among randomly hunted foxes and raccoon dogs.

According to State Programme for rabies prevention for years 2011-2015 approved by Director General of Veterinary and Food Board (decree no. 63 from 09.03.2011), due to huge improvement in rabies situation, OV strategy has been changed since spring 2011. OV of wildlife is conducted only in buffer-zones with neighbouring infected countries wherewith Estonia is bordering with land (Russia, Latvia) to maintain sufficient level of immunity among wild raccoon dogs and foxes. Necessary funds are allocated to maintain emergency stock and distribution activity preparedness also for an incident, if re-emerging rabies case(s) will occur. Control activities of OV will follow in vaccinated areas (testing of target animals for bait uptake, level of achieved immunity and virus detection). Continuous surveillance of disease is carried out in all regions of the country.

The aim of programme of year 2012 and following years is in sustainable way to prevent Estonian territory from cross-border re-infection from areas, where rabies is endemic or cases occur sporadically. Vaccination belt between Estonia and Latvia will be retained until threat of cross-border re-infection over southern border of Estonia exists. Depth of vaccination belt is adjusted on annual (if necessary also on campaign) bases according to data obtained from Food and Veterinary Service of Latvia concerning rabies cases less, then 50 km from Estonian border.

Estonia is situated at the eastward borders of European Union, having long state border with Russian Federation (~1/2 of border runs through mainland) in east. In order to protect the country from reincursions of rabies across eastern borders, a long term buffer-zone vaccination is envisaged. European Commission has indicated a possibility to finance the creation of vaccination belts along the EU borders, in the territories of the neighbouring Third Countries. From abovementioned standpoint, in longer perspective it is reasonable to pull the vaccination zone between Estonia and Russia with sensible rate of movement into east. For creation of buffer zone in Russian Federation areas adjoining Estonian territory, basic technical requirements for the implementation vaccination and monitoring should be concurred and agreements should be signed with the relevant regional authorities (Leningrad and Pskov oblasts). For the time being abovementioned principal aspects are not covered yet and particular nature of vaccination belt in Estonian eastern border in longer perspective is sophisticated to predict.

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In abovementioned reasons, despite of reality, that long-term vaccination is foreseen in Estonian eastern border; present application is not made as multiannual, but presented grounded on the most-probable scenario only on yearly bases, for year 2012.

The programme submitted for year 2012 has resembling content, as the programme of previous year. Vaccination will be carried out in buffer-zones twice a year: in spring and autumn. Planned distribution density of vaccine baits is 20 baits per sq km. Vaccine baits, distribution service and collection of samples for monitoring of OV will be proclaimed as a result of public procurement. Prior the campaigns sampling is done from all vaccine batches to control vaccine titre level suitability. Bait-dropping is performed by fixed-wing airplanes by trained stuff manually through the constructed special tube inside the plane. Flight altitude is – 100- 150 m, speed – 150 - 200 km/h and distance between parallel distribution lines ~ 550- 600 m. Navigation tool used for navigation is GPS Garmin 196, which also allows recording of flight track and make offprint afterwards. Distribution of vaccine baits is not carried out in the urban area (town, villages etc), in area of water (lakes, rivers, deep swamps etc) and in area of roads, highways and railways. Awareness campaign will be carried into force in vaccinated and surrounding areas.

Continuous surveillance and monitoring for rabies will be carried out by Veterinary and Food Board in Estonian territory.

In any case, when rabies suspicion is broach by authorized veterinarian or veterinary official, laboratory investigation will follow. Costs of these investigations are covered by State Budget.

Brain samples from 4 foxes or raccoon dogs per 100 km2 will be collected by hunters throughout the country territory. Efforts will be made to collect among these samples as mush as possible indicator animals, e.g. road kills, animals found dead.

To control bait-uptake and seroconvertion rate by the target animals \sim 4 foxes-racoon dogs/100 km2 will be hunted from areas of vaccination, blood and head samples send to the laboratory for relevant investigations.

4. Measures of the submitted programme

4.1 Summary of measures under the programme

Duration of the programme: 2012
First year:
▼ Testing
Slaughter and animals tested positive
☐ Killing of animals tested positive
Treatment

VET31011 . Z.1
Disposal of products

Eradication, control or monitoring

4.2 Organisation, supervision and role of all stakeholders involved in the programme

Describe the authorities in charge of supervising and coordinating the departments responsible for implementing the programme and the different operators involved. Descrive the responsabilities of all involved.

(max. 32000 chars):

The Veterinary and Food Board (VFB), a governmental agency carrying out its tasks under the government of the Ministry of Agriculture, is functions as a supervising body and sees that the requirements stipulated by the legislation that governs veterinary, food safety, market regulation, animal welfare and farm animal breeding are followed. VFB executes supervision over fulfilment of these requirements and applies enforcement by state pursuant to the procedures and in the amount prescribed by law. The organisation of the VFB consists of the central office and 15 local offices – veterinary centres in the counties.

The central office of the VFB has five departments; management of infectious diseases programmes (including State Programme for rabies prevention) is responsibility of the Animal Health, Welfare and Feedingstuffs Department. OV of wildlife is duly coordinated by VFB central office. Latter is responsible for defining the area of OV, methodology of vaccination, organisation of monitoring and surveillance, tendering procedures for oral (and also parenteral) vaccination, contracting, co-ordination and control of OV activities, maintaining awareness of publicity, collection and statistical analysis of data, reporting to

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EU relevant institutions and international unions e.c.

While elaboration and general coordination of the implementation of the rabies eradication programme is the responsibility of the central authority of the VFB, 15 local veterinary centres in the counties are responsible for coordination of implementation of the programme in the local level. There is an animal health specialist in every county, who is responsible for solving the problems of this particular area. Concerning OV of wildlife, local veterinary centres are mainly responsible for supervision of homogenous samples collection, including packing of material and delivery of samples to the laboratory for monitoring of OV. Local veterinary centres are also responsible for enforcement of compulsory pareneteral vaccination program of cats and dogs and surveillance to detect occurrence of rabies. In addition to the above-mentioned full-duty employees, ~150 authorised veterinarians are working for VFB on contract bases, performing practical activities- vaccination procedures with parenteral vaccine procured by State and sample collection for detection of virus. Licensed veterinarians have also right to vaccinate animals against rabies by using vaccine, registered in State Agency of Medicine. All licensed veterinarians are responsible for notifying about rabies suspicion to authorised veterinarian or local veterinary centre.

VFB central office carries out training courses for the supervisory officials of local offices and authorised veterinarians. All personnel working in animal health and welfare field are veterinarians.

In performing rabies eradication activities, VFB uses the services of the Veterinary and Food Laboratory (VFL). Most of diagnostic work in the frames of rabies programme (with exception of baits titration and virus genotyping, which are carried out in EU reference laboratory ANSES Nancy) is carried out in VFL of Estonia. VFL has central laboratory and three departments: in Tallinn, Rakvere and Kuressaare. All laboratories of the VFL are accredited by the Estonian Accreditation Centre according to EVS-EN ISO/IEC 17025:2006. Rabies investigations are carried out predominantly in Tartu, in Tallinn VFL's diagnostic department testing of rabies-suspected animas originating from northern part of country is performed. All investigations of OV efficiency control (detection of tetracycline bio-marker in teeth, determination of animal age, detection of rabies post-vaccination antibodies and viral antigen from brain tissue) is done in VFL Central Laboratory. VFL registers samples, makes necessary examinations and reports results to VFB. Communication with international reference laboratories is also responsibility of VFL. Samples collection for OV monitoring is carried out with help of Estonian Hunters Association. A special contract is undersigned where precise numbers and locations from where samples should be collected are pointed out.

VFB is co-operating in rabies control field also with Health Board and Ministry of Environment.

4.3 Description and demarcation of the geographical and administrative areas in which the programme is to be implemented

Describe the name and denomination, the administrative boundaries, and the surface of the administrative and geographical areas in which the programme is to be applied. Illustrate with maps.

(max. 32000 chars):

Estonia is bordered to the north by the Gulf of Finland, to the west by the Baltic Sea, to the south by Latvian Republic (343 km), and to the east by the Russian Federation (338.6 km). Buffer-zones in south and east border with both, Russia and Latvia will be maintained in year 2012.

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Rabies virus is widely spread in territory of Russian Federation, several cases also occur in close neighbourhood of Estonian-Russian mainland border. To protect potentially rabies-free area from a neighbouring infected area, the immunological barrier along the mainland border with Russian Federation will be 50 km in depth. In eastern and north-eastern part of the border with Russia very good natural physical barriers exists. Lake Peipsi is the fifth largest in Europe, covers 3,500 km², its shore length is 520 km and an average depth of 7 m. Lake Peipsi constitutes impassable barrier for most of time of the year, as distance between its coasts can be counted in tenths of kilometres in most occasions. Lake Peipsi is drained by river Narva, largest river in Estonia, which could be crossed by target species only in limited time in cold winters, while frozen. Depth of the buffer zone near Peipsi will be reduced to 30 km (measured from lake's eastern coast) and towards river Narva vaccination area will be 30 km wide. Due to OV campaigns in Latvian Republic territory rabies situation is favourable there, but as some rabies cases still occur also less, the 50 km from Estonian-Latvian mainland border (1 case in 2010 ~10 km from Estonian border), it is foreseen to build up buffer-zone of min. 20 radius from border. Due to a case in 2010, vaccination area is enlarged up to 50 km from abovementioned infection portal. If feasible, buffer zone will be edged with natural or artificial barriers in Estonian side. In total, vaccination area of all buffer-zones facing Russia and Latvia covers $\sim 9400 \text{ km}^2$. See map of vaccination area in 2012 in Annex (Figure 6).

To prevent rabies epidemic in Estonia if re-emerging rabies case(s) in Estonia will occur in year 2012, emergency resources for management up to two rabies outbreaks is included into current application. As there is consistent lack of proper artificial barriers inside Estonia, also only few efficient natural barriers exist, the size of area intended to be vaccinated in surrounding of positive animal found is planed to be 8000 km². (radius of 50 km from rabies focus).

In the case rabies situation will deteriorate in Estonia (re-infection occurs in areas far from country border in 2011) or in Latvia (rabies cases in closer surrounding, then 30 km from Estonian border, suspending of OV campaigns in area bordering with Estonia in 2011 or 2012), alterations from original strategy to conduct OV will be essential (giving occasion for need of reallocation of financial resources necessary for implementing the programme). Abovementioned reallocation can be also necessary in case negotiations with relevant oblasts of Russian Federation give positive result and vaccination could be partly conducted in year 2012 in the territory of Third County.

Notification system of all rabies-suspected cases is applied in all over the territory of Estonia. In case of suspicion, laboratory investigations will follow. Surveillance will be conducted throughout the country territory by collecting brain samples from 4 foxes or raccoon dogs per 100 km2 (the priority categories for investigation are indicator animals, e.g. road kills, animals found dead).

The efficiency of OV campaigns will be measured by testing samples collected from areas vaccinated in 2012 for marker detection, virus and seroconvertion rate.

4.4 Description of the measures of the programme

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A comprehensive description needs to be provided of all measures unless reference can be made to community legislation. The national legislation in which the measures are laid down is mentioned.

4.4.1 Notification of the disease

(max. 32000 chars):

According to Regulation No. 34 of the Minister of Agriculture of 25 November 1999 "List of infectious animal diseases subject of notification and registration", rabies is a dangerous infectious animal disease subject of notification. Consolidated version of abovementioned act in Estonian is available in webpage https://www.riigiteataja.ee/akt/13329161

Regulation No 67 of 20 November 2000 by Minister of Agriculture "Rules for Rabies Control" enforces line of action in case of rabies suspicion/diagnose. Consolidated version of the Minister of Agriculture Regulation of 20 November 2000 No 67 "Rules for Rabies Control" is available in Estonian in webpage: https://www.riigiteataja.ee/ert/act.jsp?id=13248917

Owner of domestic animal or licensed veterinarian should notify without delay to veterinary services about the unnatural behaviour of animals or other characteristic symptoms of the rabies. The local authority of the VFB has to be notified immediately about the entrance of a wild animal into human settlement, its attack to a domestic animal or human. An authorised veterinarian and the laboratory which diagnoses rabies are obliged to notify the local authority of the VFB about rabies or rabies suspicion. The local authority of the VFB has to notify the local authority of the Health Board about the contact between a man and an animal who has the rabies or who is suspected to have the disease.

4.4.2 Target animals and animal population

(max. 32000 chars):

Target population of OV programme are reservoirs of the disease, in Estonian content red foxes and racoon dogs.

No present-day counting data available for those species. According to the data of the Ministry of the Environment number of racoon dogs has continuously shown ascending trend. No of foxes has been fluctuating in recent years, by recent data increasing at the time being.

Precise data is available concerning hunting-bag: hunting bag for foxes was 12 712 individuals in 2008, 7 472 in 2009, 9 656 in 2010. Similar figures for raccoon dogs have been 8728 animals in 2008, 9 495 in 2009 and 12 600 in 2010.

4.4.3 Identification of animals and registration of holdings

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(тах.	32000	chars)) :

NA

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4.4.4 Qualifications of animals and herds	
(max. 32000 chars) : NA	
4.4.5 Rules of the movement of animals	

(max. 32000 chars):

NA for wildlife.

Rules stipulated by EC Regulation No 998/2003 are followed for the non- commercial movement of pet animals.

4.4.6 Tests used and sampling schemes

(max. 32000 chars):

Testing material is collected from all rabies suspected animals for laboratory investigations to confirm or overrule disease appearance.

Tests carried out in case of rabies suspicion are Fluorescent Antibody Test (FAT), virus isolation on cell culture (CC) and polymerase chain reaction (RT-PCR). In case sample investigation by FAT has given negative or suspicious result and animal had contact with unvaccinated animal or person, additional testing by CC and RT-PCR will follow. Testing procedure for samples which are tested by FAT with positive result- result will be reported without additional testing.

Surveillance is conducted throughout the country territory (including OV area) by collecting brain samples from 4 foxes or raccoon dogs per 100 km2 (the priority categories for investigation are indicator animals). FAT is used for laboratory investigations.

OV monitoring is conducted in areas vaccinated from air. Head and blood samples are collected at least from 4 foxes or raccoon dogs per 100 km2. Detection of tetracycline in teeth and bone specimens by fluorescence is carried out on these samples; additionally age of all tested animals is determined. The enzyme-linked immuno-sorbent assay (ELISA) technique is in use for testing of wildlife sera after OV to confirm population immunity level achieved.

4.4.7 Vaccines used and vaccination schemes

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(max. 32000 chars):

Due to improvement of rabies situation in recent years, legal bases in Regulation No. 67 of the Minister of Agriculture "Rabies Control Rules" of 20.11.2000 (RTL 2000, 120, 1876) concerning vaccination of domestic animals were changed in year 2009. Animal owner is required to ensure that the cats and dogs belonging to him or her are vaccinated. Primary vaccination of dogs and cats takes place when animal is 3-4 months old. For decades as a rule, animals were revaccinated once a year, preferably after 12 months of the last vaccination. According to amendments in abovementioned regulation, since 20.07.09, it is allowed to make booster vaccination in accordance with instructions described in product information sheet of vaccine used, but interval between vaccinations can not be longer, than 24 months have passed from last vaccination. The vaccination of farm animals that graze on woodland pastures and pastures adjacent to forests is recommended. Animals are vaccinated by veterinary supervisory officials, authorized veterinary surgeons or licensed veterinarians. Since 18.12.09., it is compulsory to issue to animal owner after each vaccination an acknowledgment of vaccination (as a certificate, mark in passport e.c.) were vaccination date and revaccination date will be designated. This document should be retained at least until revaccination of the animal.

For vaccination inactivated adjuvanted vaccine (Rabisin) against rabies is used mainly, as a vaccine procured for implementing the State Program on Monitoring and Surveillance of Animal Infectious Diseases, but also other rabies vaccines registered by State Agency of Medicines could be exploited by licensed veterinarians.

For OV of wildlife vaccine is procured via public procurement by VFB in the beginning of year. Offerer is fully responsible for ensuring the consistency of the supply, proper storage and transportation facilities of baits. Vaccine must be registered in Estonian State Agency of Medicine or registered at the European Community Register of veterinary medicinal products. Vaccine baits should be incompliance with European Pharmacopoeia no. 0746 "European monograph for live oral rabies vaccine for foxes". The baits must fulfil WHO recommended criteria of efficacy, pathogenicity and stability. Vaccine should consist of bait casing attractive for the foxes and racoon dogs and containing a capsule or a sachet consisting of live vaccine against rabies. The bait should contain a biomarker tetracycline. In years 2005-2011 Rabigen SAG-2 has been used for wildlife vaccination.

Distribution of baits is carried out biannually, in spring and autumn. Prior the campaigns from every vaccine batches 10 baits are sent to reference laboratory to control existence of proper vaccine titre. For distribution of vaccine baits small-scale airplanes are used. Baits are dropped manually by trained persons through the tube systems, specially constructed into planes. Dropping is stopped while flying over urban areas, roads, rivers, lakes and deep mashes. Flying takes place in the principle of parallel lines, distance between flight lines used is 600 metres and altitude from ground 100 – 150 meters. GPS Garmin is used as navigation tool, which also allows recording of flight track and make offprint afterwards. Distribution density of vaccine baits is approximately 20 baits per sq km. No additional manual distribution is carried out.

4.4.8 Information and assessment on bio-security measures management and infrastructure in place in the holdings involved.

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4.4.9 Measures in case of a positive result

A short description is provided of the measures as regards positive animals (slaughter, destination of carcasses, use or treatment of animal products, the destruction of all products which could transmit the disease or the treatment of such products to avoid any possible contamination, a procedure for the disinfection of infected holdings, the therapeutic or preventive treatment chosen, a procedure for the restocking with healthy animals of holdings which have been depopulated by slaughter and the creation of a surveillance zone around infected holding)

(max. 32000 chars):

Measures in case of rabies suspicion/diagnose on cat or dog.

A cat or a dog with rabies suspicion has to be isolated for at least 14 days into an area surrounded by fence or into a separate closed room pursuant to the orders of the veterinary supervisory official or authorised veterinarian or killed without damaging its head if the animal keeper cannot ensure safe isolation of the animal or the animal keeper cannot be identified. The veterinary supervisory official or the authorised veterinarian take samples from the killed animal, also from the animal, who has died during the isolation period and send these to the laboratory.

After the sample for analyses has been taken the carcass of the animal has to be burnt. If rabies is not confirmed within 14 days, the veterinary supervisory official or the authorised veterinarian can release the animal from isolation after examining it and if necessary, vaccinating it.

Measures in case of rabies suspicion/diagnose on farm animal.

If rabies is diagnosed with one animal of the herd the authorised veterinarian has to examine all other animals of the herd in order to find typical clinical symptoms of rabies or animals with traces of bites. The veterinary supervisory official has to issue an order for compulsory killing of all animals with the suspicion of rabies or isolation of those animals for at least 14 days into an area surrounded by barriers or into a separate closed room. After having taken samples, the carcass of the animal has to be destroyed immediately pursuant to the prescriptions of the veterinary supervisory official. If the infection source is not known, the authorised veterinarian or the veterinary supervisory official can order the rest of the herd to be vaccinated. The herd has to remain under the supervision of the local authority of the Veterinary and Food Board for at least 30 days. The animal keeper is obliged to notify the authorised veterinarian about all health disturbances of the animals. Restrictions about animal's movements, slaughtering and use raw milk and raw milk products are adjusted to herd. The room where the animal with rabies is kept, the animal's bed or the isolation room and the objects which are probably contaminated with the virus have to be disinfected pursuant to the orders of the veterinary supervisory official or the authorised veterinarian.

Measures in case of rabies suspicion/diagnose on wild animal.

The wild animals with suspicious behaviour should be killed pursuant to the orders of the veterinary supervisory official or the authorised veterinarian without damaging the animal's head. Samples should be sent to the laboratory for confirmation or overruling of rabies suspicion. After samples have been taken the carcass of the wild animal has to be burnt or buried pursuant to the prescription of the veterinary supervisory official or the authorised veterinarian in cooperation with the Environmental Inspectorate and a person holding the hunting right determines the probable trajectory of the animal's movement and the fact whether it has bitten a domestic animal or a human. All animals bitten by suspicious/infected animal are treated as rabies suspected until proven

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contrarywise.

The local authority of the VFB has to notify the local authority of the Health Board about the contact between a man and an animal who has the rabies or who is suspected to have the disease.

In any case, when rabies is diagnosed, epidemiological investigation will follow. Scope of investigations is to determine time and source of infection, potential ways of spreading of disease, other contact animals.

In case re-emerging rabies case(s) appear inside country in unvaccinated area, emergency vaccination will follow in the surrounding of 20-50 km from outbreak (depending upon existence of natural or artificial barriers of the movements of reservoir animals). If rabies case(s) are discovered inside buffer zone, further, then 25 km from unvaccinated area, buffer-zone will be expanded accordingly for next vaccination campaign. If less, the 25 km is between inner edge of vaccination belt and rabies case, emergency vaccination in sufficient area of unvaccinated territory will follow. VFB can decide not to carry out an emergency vaccination in case source of rabies infection is an imported animal, when based on results of epidemiological investigation infection has not been spread to wildlife.

4.4.10 Compensation scheme for owners of slaughtered and killed animals

(max. 32000 chars):			
NA			

4.4.11 Control on the implementation of the programme and reporting

(max. 32000 chars):

The central agency performing supervision over the implementation of the programme is the VFB. Representative of VFB presides over vaccination for whole OV campaign long. Special letter of guidance is laid down for stuff to carry out vaccine-dropping. The aerial bait distribution is checked by bait distribution records (in electronic and paper format). GPS system is used for recording of flight tracks (journey, co-ordinates, periodicity of flight routs, speed, and altitude from ground). Intense superintendence is ongoing over storage and transportation of vaccine baits, including physical checks and storage-room temperature outsprints. Prior the campaigns from every vaccine batch in use 10 baits are sent to Community Reference Laboratory to ascertain existence of proper vaccine titre. Before start of OV, results proving sufficient quality of baits should be available. Neighbouring countries are informed about vaccination activities in advance.

For controlling the efficacy of OV of foxes and racoon dogs against rabies three main methods are used: investigation of all rabies-suspected cases to verify virus prevalence, detection of tetracycline marker by testing the teeth of target population, titration of rabies antibodies to identify seroconversion rate.

Relevant reports to EU and international professional unions are prepared timely by Animal Health, Welfare and Feedingstuffs Department of VFB.

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5. Benefits of the programme

A description is provided of the benefits for farmers and society in general

(max. 32000 chars):

General objective of the programme is preventing rabies cases among wild and domestic animals and via this reducing the probability for humans to get infected with rabies.

By retaining vaccination belt between Estonian territory and neighbouring infected areas, re-infection of areas free from rabies will be avoided.

Preplanning of activities in case re-emerging rabies cases nevertheless occurre, give notable time advantage to restrain spreading of disease.

Data on the epidemiological evolution during the last five years

6

Data already submitted via the online system for the years 2006 - 2009:

no

6.1 Evolution of the disease

○ Not applicable ○ Applicable...

Evolution of the disease:

Stratified data on surveillance and laboratory tests

6.2

Standard requirement for the submission of programme for eradication, control and monitoring

Stratified data on surveillance and laboratory tests for year: 6.2.1

2010

Region	Animal Species	Test Type	Test Description	Number of samples tested	Number of positive samples	
Estonia	Domestic animals suspecte	microbiological or virological teg	Estonia Domestic animals suspecter microbiological or virological te: Fluorescent Antibody T	98	0/////////	×
Estonia	Wild animals suspected	microbiological or virological te: FAT	FAT	154	0	×
Estonia Foxes	Foxes	microbiological or virological te: FAT	FAT	694	0	×
Estonia	Racoon dogs	microbiological or virological te: FAT	FAT	1 056	0	×
Estonia	Foxes	other test	Detection of tetracycline	1 104	973	×
Estonia	Racoon dogs	other test	тс	2 085	1 716	×
Estonia Foxes	Foxes	serological test	AB- ELISA	594	278	×
Estonia	Estonia Racoon dogs	serological test	AB-ELISA	1159	629	×
Total				6 931		
				ADD A NEW ROW	EW ROW	

Stratified data on surveillance and laboratory tests for year:

2009

Region	Animal Species	Test Type	Test Description	Number of samples tested	Number of positive samples	
Estonia	Estonia Domestic animals suspecter microbio	microbiological or virological te:	FAT	14	0	×
Estonia	Wild animals suspected	microbiological or virological te:	FAT	154	3	×
Estonia Foxes	Foxes	microbiological or virological te:	FAT	283	0	×
Estonia	Racoon dogs	microbiological or virological te:	FAT	623	0	×
Estonia	Foxes	other test	ТС	1 131	1 033	×
Estonia	Racoon dogs	other test	тс	1 880	1 617	×
Estonia	Foxes	serological test	AB-ELISA	647	310	×
Estonia	Racoon dogs	serological test	AB-ELISA	1 0 9 1	513	×
Total				982 9		
				ADD A NEW ROW	EW ROW	

Stratified data on surveillance and laboratory tests for year: 6.2.1

Region	Animal Species	Test Type	Test Description	Number of samples tested	Number of positive samples
Estonia	Estonia Domestic animals suspecte	microbiological or virological tes	FAT	137	2
Estonia	Estonia Wild animals suspected	microbiological or virological tes	FAT	171	
Estonia Foxes	Foxes	microbiological or virological te: FAT	FAT	1 727	0
Estonia	Estonia Racoon dogs	microbiological or virological te: FAT	FAT	1 734	0

×	×	×	×		
1 599	1 520	472	536		N ROW
1 727	1 734	929	985	9 144	ADD A NEW ROW
TC	тс	AB-ELISA	AB-ELISA		
other test	other test	serological test	serological test		
Foxes	Estonia Racoon dogs	Foxes	Estonia Racoon dogs		
Estonia Foxes	Estonia	Estonia Foxes	Estonia	Total	

Stratified data on surveillance and laboratory tests for year: 6.2.1

	_	•	
١		?	
֡		?	
ø	-		
		4	
		4	

Region	Animal Species	Test Type	Test Description	Number of samples tested	Number of positive samples	
Estonia	Domestic animals suspected	Estonia Domestic animals suspecter microbiological or virological te: FAT	FAT	184	2	×
Estonia	Estonia Wild animals suspected	microbiological or virological te: FAT	FAT	189	2	×
Estonia Foxes	Foxes	other test	TC	1 255	1 070	×
Estonia	Racoon dogs	other test	TC	1 627	1 349	×
Estonia Foxes		serological test	AB-ELISA	280	94	×
Estonia	Racoon dogs	serological test	AB-ELISA	316	119	×
Total				3 851		
				ADD A NEW ROW	EW ROW	

Stratified data on surveillance and laboratory tests for year: 6.2.1

2006

Region	Animal Species	Test Type	Test Description	Number of samples tested	Number of positive samples	
Estonia	Domestic animals suspecte	Estonia Domestic animals suspected microbiological or virological ted FAT	FAT	257	13	×
Estonia	Estonia Wild animals suspected	microbiological or virological te:	FAT	331	101	×
Estonia Foxes	Foxes	other test	TC	1 343	1 169	×
Estonia	Racoon dogs	other test	TC	1 546	1 294	×
Estonia Foxes		serological test	AB-ELISA	193	106	×
Estonia	Estonia Racoon dogs	serological test	AB-ELISA	235	130	×
Total				3 905		
				ADD A NEW ROW	EW ROW	

6.3 Data on infection

Data on infection

○ Not applicable

○ Applicable...

		×	
2010	Number of animals infected	0	0
	Number of herds infected	0	0
tion at the end of year:	Animal Species	farm animals	
Data on infection	Region		Total
6.3		Estonia	

Add a new row

2009

Data on infection at the end of year:

6.3

	×		
Number of animals infected	0	0	Add a new row
Number of herds infected	0	0	
Animal Species	farm animals		
Region	Estonia	Total	

2008	Number of animals infected
	Number of herds infected
Data on infection at the end of year :	Animal Species
Data on infec	Region
6.3	

	Number of animals infected
•	Number of herds infected
•	Animal Species
•	Region

×		
		Add a new row
-		
Sheep		
Estonia	Total	

6.3 Data on infection at the end of year:

2007

Number of animals infected	2 ×	2	Add a new row
	2	2	Addar
Number of herds infected			
Animal Species	Bovines		
Region		Total	
	Estonia		

6.3 Data on infection at the end of year:

2006

Region	Animal Species	Number of herds infected	Number of animals infected	
Estonia	Bovines	3	3	×
Estonia	Horses	_	_	×
Total		4	4	
			Add a new row	

Data on the status of herds

6.4

Data on the status of herds:

○ Applicable...

6.5 Data on vaccination or treatment programmes

○ Applicable... ○ Not applicable Data on vaccination or treatment programmes is

6.6 Data on wildlife

Data on Wildlife is:

Not applicable

• Applicable...

Estimation of wildlife population for year:

6.6.1

2010

	Species	Method of estimation	Estimation of the population	
₽	fox	nunting bag	9996	×
0	racoon dog	nunting bag	12 600	×
			ADD A NEW ROW	

Estimation of wildlife population for year: 6.6.1

2009

Region	Species	Method of estimation	Estimation of the population	
Estonia	fox	hunting bag	7 472	×
Estonia	racoon dog	hunting bag	X 6496	×
			ADD A NEW ROW	

Estimation of wildlife population for year: 6.6.1

2008

	×	X	
Estimation of the population	12 712 X	8 728 X	ADD A NEW ROW
Method of estimation	hunting bag	hunting bag	
Species	fox	racoon dog	
Region	Estonia	Estonia	

Estimation of wildlife population for year: 6.6.1

2007

Estimation of the population Method of estimation Species Region

×	×	
986 9	7 994	ADD A NEW ROW
hunting bag	hunting bag	
fox	racoon dog	
Estonia	Estonia	

6.6.1 Estimation of wildlife population for year:

2006

Region	Species	Method of estimation	Estimation of the population	
Estonia	fox	hunting bag	5 856	×
Estonia	racoon dog	hunting bag	5 842	×
			ADD A NEW ROW	

6.6.2 Monitoring of wildlife for year:

2010

Region	Species	Test type	<u>Test Descri</u> ption	Number of samples tested	Number of positive samples	
Estonia	Wild animals suspected	other test	Fluorescent Antibody Test (FAT)	154	0	×
Estonia	fox	other test	FAT	694	0	×
Estonia	racoon dog	other test	FAT	1 056	0	×
Estonia	fox	Biomarker detection	Detection of tetracycline (TC)	1 104	973	973 X

×	×	×	
1716	278	629	
2 085	594	1 159	ADD A NEW ROW
ТС	ELISA	ELISA	ADD A N
Biomarker detection	serological test	serological test	
racoon dog	fox	racoon dog	
Estonia	Estonia	Estonia	

6.6.2 Monitoring of wildlife for year:

2009

Region	Species	Test type	<u>Test Descri</u> ption	Number of samples tested	Number of positive samples	
Estonia	Wild animals suspected	other test	FAT	154	3	×
Estonia	fox	other test	FAT	783	0	×
Estonia	racoon dog	other test	FAT	973	0	×
Estonia	хој	Biomarker detection	ТС	1 131	1 033	×
Estonia	racoon dog	Biomarker detection	ТС	1 880	1 617	×
Estonia	хој	serological test	ELISA	647	310	×
Estonia	racoon dog	serological test	ELISA	1 091	513	×
			ADD A N	ADD A NEW ROW		

6.6.2 Monitoring of wildlife for year:

2008

				Number of samples	Number of positive	
Region	Species	Test type	<u>Test Descri</u> ption	tested	samples	
Estonia	Wild animals suspected	other test	FAT	171	1	×
Estonia	fox	other test	FAT	1 727	0	×
Estonia	racoon dog	other test	FAT	1 734	0	×
Estonia	fox	Biomarker detection	ТС	1 727	1 599	×
Estonia	racoon dog	Biomarker detection	ТС	1 734	1 520	×
Estonia	fox	serological test	ELISA	676	472	×
Estonia	racoon dog	serological test	ELISA	985	536	×
			ADDAN	ADD A NEW ROW		

6.6.2 Monitoring of wildlife for year:

7r: 2

Number of positiveTest typeTest Description Test typesamples	er test FAT 2 X	narker detection TC 1070 X
<u>Test Descri</u> ption	FAT	TC
Test type	other test	Biomarker detection
Species	Wild animals suspected	fox
Region	Estonia	Estonia

Estonia	racoon dog	Biomarker detection	TC	1 627	1 349	×
Estonia	fox	serological test	ELISA	780	94	×
Estonia	racoon dog	serological test	ELISA	316	119	×
			ADD A N	ADD A NEW ROW		

Monitoring of wildlife for year: 6.6.2

2006

Region	Species	Test type	<u>Test Descri</u> ption	Number of samples tested	Number of positive samples	
Estonia	Wild animals suspected	other test	FAT	331	101	×
Estonia	fox	Biomarker detection	7C	1 343	1 169	×
Estonia	racoon dog	Biomarker detection	TC	1 546	1 294	×
Estonia	fox	serological test	ELISA	193	106	×
Estonia	racoon dog	serological test	ELISA	235	130	×
			ADD A NEW ROW	EW ROW		

Data on vaccination or treatment of wildlife for year: 2010

6.6.3

Square km

Region	Square km	Number of doses of vaccine or treatment to be administered	Number of campaigns	Total number of doses of vaccine or treatment administered	
Estonia (spring)	43 000	860 000	1	000 098	×
Estonia (autumn)	43 000	860 000	1	000 098	X
			ADD	ADD A NEW ROW	

Data on vaccination or treatment of wildlife for year:

6.6.3

2009

			Square km		
Region	Square km	Number of doses of vaccine or treatment to be administered	Number of campaigns	Total number of doses of vaccine or treatment administered	
Estonia (spring)	43 000	000 098	1	X 000 098	×
Estonia (autumn)	43 000	000 098	1	X 000 098	×
			ADD	ADD A NEW ROW	

6.6.3 Data on vaccination or treatment of wildlife for year:

. 2008

		×
	Total number of doses of vaccine or treatment administered	860 000
Square km	Number of campaigns	7-
	Number of doses of vaccine or treatment to be administered	860 000
	Square km	43 000
	Region	Estonia (spring)

stonia (autumn)	43 000	860 400		098	860 400 X
			ADD	ADD A NEW ROW	

Data on vaccination or treatment of wildlife for year:

6.6.3

2007

	ADD A NEW ROW	ADD			
×	863 200	-	863 200	43 000	Estonia (autumn)
×	853 600	1	853 600	43 000	Estonia (spring)
	Total number of doses of vaccine or treatment administered	Number of campaigns	Number of doses of vaccine or treatment to be administered	Square km	Region
		Square km			

Data on vaccination or treatment of wildlife for year: 2006

6.6.3

	ADD A NEW ROW	ADD			
×	851 200	1	851 200	43 000	
×	849 200	1	849 200	43 000	
	Total number of doses of vaccine or treatment administered	Number of campaigns	Number of doses of vaccine or treatment to be administered	Square km	
		Square km			

Targets

The blocks 7.1.1, 7.1.2.1, 7.1.2.2, 7.2, 7.3.1 and 7.3.2 are repeated multiple times in case of first year submission of multiple program.

Targets related to testing (one table for each year of implementation)

Number of planned	tests
	Ohjective
	Type of sample
	Target population
	Type of the test
	Region

2012

Targets on diagnostic tests for year:

	×	×	×	×	×	×	×
Number of planned tests	350	100	100	2 000	495	495	10
Objective	confirmation of suspected cases	confirmation of suspected cases	confirmation of suspected cases	surveillance, monitoring of campaigns	monitoring of campaigns	monitoring of campaigns	virus strain genotyping
Type of sample	brain tissue	brain tissue	brain tissue	brain tissue	mandibula, tooth	serum	brain tissue
Target population	all animals with suspicion brain tissue	all animals with suspicion brain tissue	all animals with suspicion brain tissue	Foxes and Racoon dogs	Foxes and Racoon dogs	Foxes and Racoon dogs	animals tested positive
Type of the test	FAT	PCR	၁၁	FAT	TC detection	ELISA	PCR (sequencing)
Region	Estonia	Estonia	Estonia	Estonia	Estonia	Estonia	Estonia

3 550 w row			
Total Add a new row	○ Applicable	○Applicable	○Applicable
	○ Not applicable	○ Not applicable	imals imals
Targets on testing herds and animals	7.1.2.1 Targets on testing herds	7.1.2.2 Targets on testing animals	Targets on qualification of herds and animals Targets on qualification of herds and animals Not applicable
7.1.2			7.2

7.3 Targets on vaccination or treatment

7.3.1 Targets on vaccination or treatment is

○ Not applicable

○ Applicable...

7.3.1 Targets on vaccination or treatment for year:

2012

		×		
	Number of adults Number of young expected to be animals expected vaccinated to be vaccinated	0	0	W
nme	Number of adults expected to be vaccinated	0	0	Add a new row
or treatment progran	Number of doses of vaccine or treatmentexpecte d to be administered	80 000	80 000	Ac
Targets on vaccination or treatment programme	Number of herds Number of doses expected to be animals expected to be vaccinated or treated or treated administered to be vaccinated administered vaccinated to be vaccinated to	80 000	80 000	
Targ	Number of herds expected to be vaccinated or treated	0	0	
	Number of herds in vaccination or treatment treatment treated or treated	0	0	
	Total number of animals in vaccination or treatment programme	0	0	
	Total number of herds in vaccination or treatment programme	0	0	
	Animal species	Domestic animals (mai		
	Region	Estonia	Total	

○ Applicable... ○ Not applicable 7.3.2 Targets on vaccination or treatment of wildlife is

Targets on vaccination or treatment of wildlife for year:

7.3.2

2012

		×	×		
тте	Total number of doses of vaccine or treatment expected to be administered	376 000	320 000	000 969	Add a new row
Targets on vaccination or treatment programme	Expected number of campaigns	2	2		Add a r
Tarç	Number of doses of vaccine or treatments expected to be administered in the campaign	188 000	160 000	348 000	
	Square km	9 400	000 8		
	Region	Buffer-zone along border with Russia and Latvia	Emergency vaccination in case of urgency	Total	

Detailed analysis of the cost of the programme for year: 2012

 ∞

The blocks are repeated multiple times in case of first year submission of multiple program.

i.
Specification
Fluorescent Antibody test (FAT), suspected animals Individual animal sample/test
PCR, suspected animals
Cell culture (CC), suspected animals
PCR ((sequencing - in the case of positive result)
Fluorescent Antibody test (FAT), foxes and racoon control animal sample/test
Tetracycline detection
Hunting of foxes and raccoon dogs, collecting head Individual animal sample/test

Standard requirement for the submission of programme for eradication, control and monitoring

×	×	×	×				×	×				×			
yes	yes	yes	yes	row		Community funding requested	yes	yes	row		Community funding requested	ou	row		Community funding requested
5128,2 yes	8420 yes	11540 yes	8081,5 yes	Add a new row		Total amount in EUR	591600	205668 yes	Add a new row		Total amount in EUR	0	Add a new row		Total amount in EUR
10.36	4.21	5.77	23.09			Unitary cost in EUR	0.85	5.91			Unitary cost in EUR	0			Unitary cost in EUR
495	2 000	2 000	350			Number of units	000 969	34 800			Number of units	0			Number of units
Individual animal sample/test	Individual animal sample/test	Individual animal sample/test	Individual animal sample/test			Unit	Vaccine dose	Square Kilometre of distribution			Unit	NA			Unit
Collecting blood sample	Transportation of samples	Autopsy (fox, raccoon dog)	Autopsy (suspected animals)			Specification	Wildlife oral vaccination	Wildlife oral vaccination			Specification	ΑN			Specification
Cost of sampling	Other costs	Other costs	Other costs		2. Vaccination or treatment	Cost related to	Purchase of vaccine/treatment ofanimal pro	Distribution costs		3. Slaughter and destruction	Cost related to	NA		4. Cleaning and disinfection	Cost related to

Standard requirement for the submission of programme for eradication, control and monitoring

	NA	NA	0	0	0	0 00	×
					Add a new row	row	
5. Salaries (staff contracted for the programme only	or the programme only)						
Cost related to	Specification	Unit	Number of units	Unitary cost in EUR	Total amount in EUR	Community funding requested	
	NA	NA	0	0	0	ou 0	×
					Add a new row	r row	
6. Consumables and specific equipment	equipment						
Cost related to	Specification	Unit	Number of units	Unitary cost in EUR	Total amount in EUR	Community funding requested	
	NA	NA	0	0	0	no	×
					Add a new row	row r	
7.Other costs							
Cost related to	Specification	Unit	Number of units	Unitary cost in EUR	Total amount in EUR	Community funding requested	
Awareness campaign	Organisation of awareness campaign	campaign	2	3196	6392 yes	yes	×
					Add a new row	row	
	Total				977 148,90 €		

Attachments

IMPORTANT:

- 1) The more files you attach, the longer it takes to upload them .
- 2) This attachment files should have one of the format listed here: .zip, jpg, jpeg, tiff, tif, xls, doc, bmp, pna.
- 3) The total file size of the attached files should not exceed 2 500Kb (+- 2.5 Mb). You will receive a message while attaching when you try to load too much.
- 4) IT CAN TAKE SEVERAL MINUTES TO UPLOAD ALL THE ATTACHED FILES. Don't interrupt the uploading by closing the pdf and wait until you have received a Submission Number!
 - 5) Zip files cannot be opened (by clicking on the Open button). All other file formats can be opened.

Annex to application from Estonia for Community financing for program for the eradication, monitoring and control of Rabies for year 2012

Rabies cases in Estonia 1968 - 2009

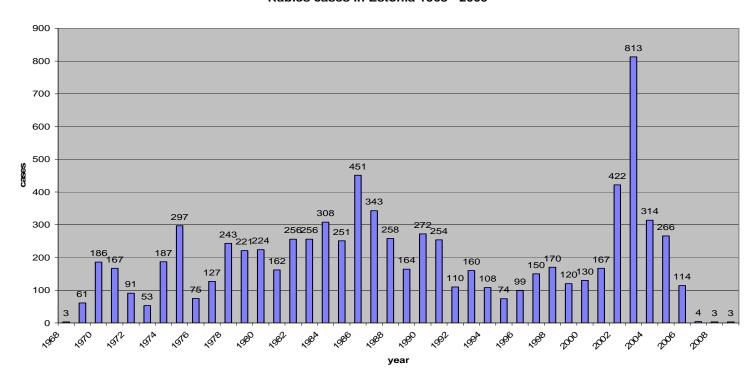


Chart 1 Rabies cases from 1968 to 2009, no rabies cases in 2010

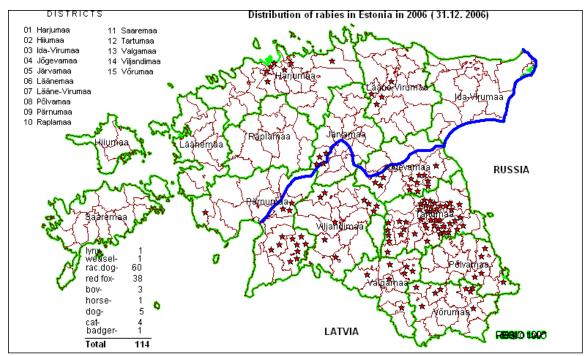


Figure 1. Distribution of rabies cases in 2006.

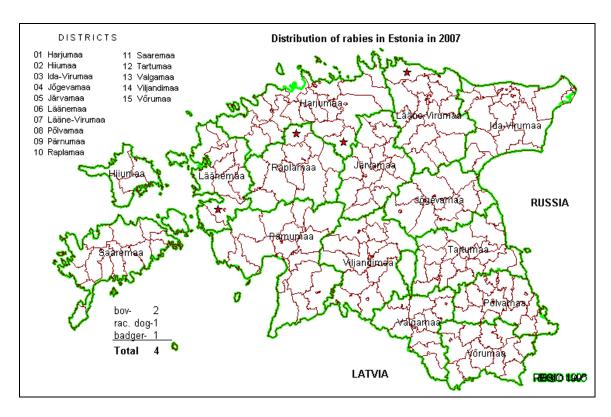


Figure 2. Distribution of rabies cases in 2007.

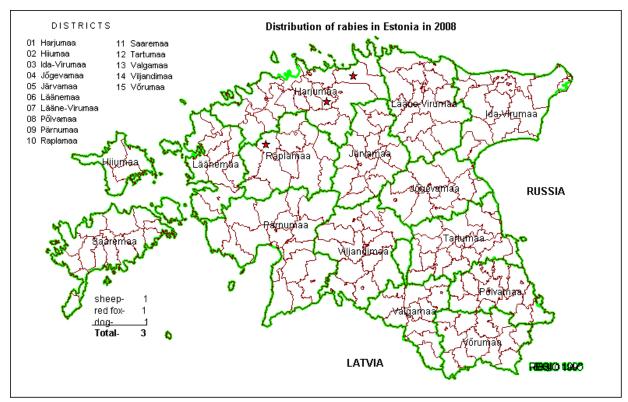


Figure 3. Distribution of rabies cases in 2008.

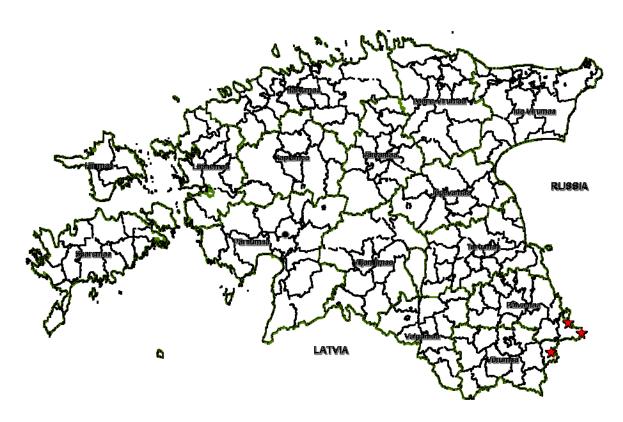


Figure 4. Distribution of rabies cases in 2009.

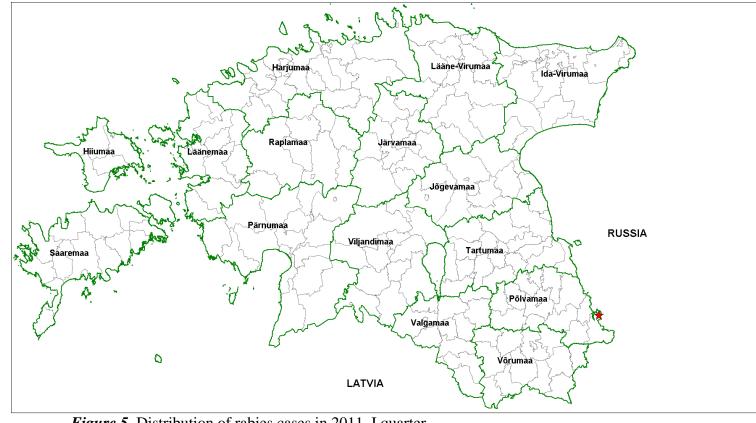


Figure 5. Distribution of rabies cases in 2011, I quarter.



Figure 6. Vaccination area in 2012