



EUROPEAN COMMISSION  
HEALTH AND CONSUMERS DIRECTORATE-GENERAL

Director General

SANCO/10503/2014

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

**The programme for  
the eradication of rabies**

**Estonia**

**Approved\* for 2014 by Commission Decision 2013/722/EU**

\* in accordance with Council Decision 2009/470/EC

# Standard requirements for the submission of programme for eradication, control and monitoring

version : 2.23

## PROGRAMME for ERADICATION : ANNEX I

Member States seeking a financial contribution from the Union for national programmes for the eradication, control and monitoring of animal diseases and zoonosis listed below, shall submit applications containing at least the information set out in this form.

Bovine brucellosis, bovine tuberculosis, ovine and caprine brucellosis (*B. melitensis*), bluetongue in endemic or high risk areas, african swine fever, swine vesicular disease, classical swine fever, rabies.

The central data base keeps all submissions. However only the information in the last submission is shown when viewing and used when processing the data.

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# Acrobat Reader 8.1.3

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Thursday, April 25, 2013 00:50:07

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## 1. Identification of the programme

Member state: EESTI

Disease Rabies

Species: Foxes and other wild carnivores

This program is multi annual: no

Request of Union co-financing from beginning of:

2014

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## 1.1 Contact

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## 2. Historical data on the epidemiological evolution of the disease

*Provide a concise description on the target population (species, number of herds and animals present and under the programme), the main measures (sampling and testing regimes, eradication measures applied, qualification of herds and animals, vaccination schemes) and the main results (incidents, prevalence, 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 (point 6), complemented by graphs or maps (to be attached).*

*(max. 32000 chars) :*

By reports from Russian tsar-time Kiev and Livonian districts were places where 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 raccoon 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 raccoon dogs has continuously shown ascending trend since these species were introduced into Estonian fauna. Surprisingly, data concerning year 2011-2012 show, that population growth has been very moderate in lately. According to hunting data, track index (tracks per 1 km) and change in abundance (hunters estimation) the size of fox population has variable nature within last 5-years period. In 2008 population showed very rapid increasing trend, since 2009 showed moderate decreasing, going into side of uprising in 2010 again. According to hunters estimation, fox population has been decreasing rapidly within last two-years period. Precise data is available concerning hunting-bag: the number of hunted foxes was 6 474 in 2012; analogous number for raccoon dogs was 13 111.

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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 cases in raccoon dogs). Rabies trend dynamics in years 1968-2011 can be followed by chart 1 in Annex. In 2010 there were no rabies cases detected, within year 2011 one infected raccoon dog was discovered in January drifting ~1km from Estonian-Russian south-east border. Since then, no positive animal has been found.

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 raccoon 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). Above mentioned 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 and one raccoon dog in January 2011 in Põlva 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. In 2011 one case occurred in the middle of January (see figure 5 in Annex). Despite of intensified risk-based surveillance of target animals, no rabies cases has been diagnosed since then.

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

### **3. Description of the submitted programme**

*Provide a concise description of the programme with its main objective(s) (monitoring, control, eradication, qualification of herds and/or regions, reducing prevalence and incidence), the main measures (sampling and testing regimes, eradication measures to be applied, qualification of herds and animals, vaccination schemes), the target animal population, 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

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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.

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 above mentioned 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 2014 approximately 50 000 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 km<sup>2</sup> were distributed manually by trained staff from fixed-wing airplanes in are ~43 000 km<sup>2</sup>. 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 neighboring 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 2014 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 re-incursions 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 neighboring Third Countries. From above-mentioned standpoint, in longer perspective it is reasonable to pull the vaccination zone between Estonia and Russia with sensible rate of

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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 region). For the time of passing this application these principal aspects are not covered and particular nature of vaccination belt in Estonian eastern border in longer perspective is sophisticated to predict.

In reasons pointed out before, despite of reality, that long-term vaccination is foreseen in Estonian eastern border; present application is not made as multi annual, but presented grounded on the most-probable scenario only on yearly bases, for year 2014. Nevertheless, as Veterinary Services of Leningrad region have shown an interest of cooperation, the buffer vaccination area in Estonian north-eastern border in the territory of Leningrad region is included into OV programme for year 2014 to facilitate the procedures provided an agreement will be achieved between Estonian Veterinary and Food Board and Vet. Services of Leningrad region in 2013 -early 2014.

In general terms the programme submitted for year 2014 has resembling content, as the programme in years 2011-2013.

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. Public tenders will be officiated to obtain sufficient amount of vaccine-baits and distribution service in good time in 2014. Service of collection of samples for monitoring of OV will be proclaimed as a result of public procurement in 2014. Prior the campaigns sampling is done from all vaccine batches to control vaccine titer level suitability. Bait-dropping is performed by fixed-wing airplanes by trained staff 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 at the time of distribution activities.

Continuous surveillance and monitoring for rabies will be carried out by Veterinary and Food Board in entire 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 km<sup>2</sup> will be collected by hunters throughout the country territory. Efforts will be made to collect among these samples as much as possible indicator animals, e.g. road kills, animals found dead, animals acting unnaturally.

To control bait-uptake and seroconversion rate by the target animals up to 4 foxes - raccoon dogs/100 km<sup>2</sup> will be hunted from areas of OV, 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 : 2014*

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## First year :

- Control
- Testing
- Slaughter and animals tested positive
- Killing of animals tested positive
- Vaccination
- Treatment
- 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. Describe the responsibilities 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



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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 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 parenteral vaccination program of cats and dogs and surveillance to detect occurrence of rabies. In addition to the above-mentioned full-duty employees, ~107 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 animals 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 into force by using services 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.

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### 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 retained in year 2014. Rabies virus is widely spread in territory of Russian Federation, several cases also occur in close neighborhood of Estonian-Russian mainland border. To protect potentially rabies-free area from a neighboring 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 km<sup>2</sup>, 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 kilometers 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. In case it will be realistic to start proper OV activities across the river Narva in Leningrad region's areas, width of buffer-zone in northeast Estonia could be reduced to 20 km. Due to OV campaigns in Latvian Republic territory rabies situation is favorable there, but as rabies cases still occur sporadically even in areas distant from infected neighboring countries, it is foreseen to maintain buffer-zone of 20 radius from border. 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 ~ 9 325 km<sup>2</sup>. See the map of vaccination area in 2014 in Estonia in Annex (Figure 6).

In case an agreement will be undersigned with Veterinary Services of Leningrad region, maximum depth of buffer OV area over the Narva river will be 50 km and area of the vaccination- zone accordingly 4 660 km<sup>2</sup> as a maximum. In ideal, depth of OV area should be 50 km in the southern part of Leningrad Region -Estonian Republic border, as epidemiological situation in this region could be easily influenced by infected Pskovsky region in south. In northern areas, depth of buffer-zone could be reduced to 30 km. What concerns financial calculations of this application, these are based on maximum depth of the buffer zone, distribution density of baits 25 baits/km<sup>2</sup> and aerial distribution methodology. As Leningrad region has declared freedom from rabies within last 25 years, with reliable OV methodology and usage of high-quality vaccine OV could be carried out once a year- in autumn period.

See the map of estimated maximum vaccination area in 2014 in Leningrad Region in Annex (Figure 7).

To prevent rabies epidemic in Estonia if re-emerging rabies case(s) in Estonia will occur in year 2014, 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 planned to be 8 000 km<sup>2</sup>. (radius of 50 km from rabies focus).

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In the case rabies situation will deteriorate in Estonia (re-infection occurs in areas far from country border in 2013) or in Latvia (rabies cases in closer surrounding, then 30 km from Estonian border, suspending of OV campaigns in area bordering with Estonia in 2013 or 2014), alterations from original strategy to conduct OV will be essential (giving occasion for need of reallocation of financial resources necessary for implementing the programme). Major reallocation can be also necessary in case positive communication can be achieved with Veterinary Services of Pskov Region and accordingly vaccination could be conducted increasingly in year 2014 in the territory of Russian Federation.

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 km<sup>2</sup> (the priority categories for investigation are indicator animals, e.g. road kills, animals found dead, animals with unnatural behavior).

The efficiency of OV campaigns will be measured by testing samples collected from areas vaccinated in 2014 for marker detection, virus and seroconversion rate.

It is presupposed monitoring of OV will be enforced in similar extension in Leningrad Region; costs of monitoring and surveillance activities should be financed from the State Budget of Russian Federation).

### **4.4 Description of the measures of the programme**

*A comprehensive description needs to be provided of all measures unless reference can be made to Union 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 behavior 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.

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### **4.4.2 Target animals and animal population**

*(max. 32000 chars) :*

Target population of OV programme are reservoirs of the disease, red foxes and raccoon dogs. There is no present-day counting data available for those species. According to the data of the Ministry of the Environment number of raccoon dogs has continuously shown ascending trend. No of foxes has been fluctuating in recent years. By hunters estimation in 2011 and 2012 number of foxes has decreased considerably, size of raccoon dogs population has been passing through moderate increase in 2011-2012.

Precise data is available concerning hunting-bag: hunting bag for foxes was 7 472 individuals in 2009, 9 656 in 2010, 7 144 in 2011 and 6 474 in 2012. Similar figures for raccoon dogs have been 9 495 animals in 2009, 12 600 in 2010, 12 577 in 2011 and 13 111 in 2012.

### **4.4.3 Identification of animals and registration of holdings**

*(max. 32000 chars) :*

NA

### **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.

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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 non vaccinated 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 km<sup>2</sup> (the priority categories for investigation are indicator animals). FAT is used for laboratory investigations of these brain-samples.

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 km<sup>2</sup>. 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**

*(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.) where vaccination date and revaccination date will be designated. This document should be retained at least until revaccination of the animal.

For vaccination inactivated adjuvant vaccine (Rabisin) against rabies has been used until lately, as a vaccine procured for implementing the State Program on Monitoring and Surveillance of Animal Infectious Diseases. As a result of public tender, Biocan will be used as a "State Vaccine" since end of year 2012. 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. Bidder 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 in compliance 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 raccoon dogs and containing a capsule or a sachet consisting of live

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vaccine against rabies. The bait should contain a biomarker tetracycline.

As a result of public tenders, Rabigen SAG-2 has been the only vaccine used for wildlife vaccination in Estonia.

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 titer. For distribution of vaccine baits small-scale airplanes type Cessna 172 are used. Baits are dropped manually by trained persons through the tube system, specially constructed into planes. Dropping is stopped while flying over urban areas, roads, rivers, lakes and deep marshes. Flying takes place in the principle of parallel lines, distance between flight lines used is up to 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 as a general rule 20 baits per sq km. No additional manual distribution from ground is carried out.

Public tenders will be officiated in early 2014 to purchase vaccine baits and acquire distribution service for year 2014 (and also 2015 if requisite).

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

(max. 32000 chars) :

NA

### 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



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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 behavior 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. 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 contrariwise.

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

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### **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, coordinates, 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 out prints. Prior the campaigns from every vaccine batch in use 10 baits are sent to Community Reference Laboratory to ascertain existence of proper vaccine titer. Before start of OV, results proving sufficient quality of baits should be available. Neighboring countries are informed about vaccination activities in advance.

For controlling the efficacy of OV of foxes and raccoon 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 Feeding stuffs Department of VFB.

## **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 neighboring infected areas, re-infection of areas free from rabies will be avoided.

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



## 6. Data on the epidemiological evolution during the last five years

yes

### 6.1 Evolution of the disease

Evolution of the disease :  Not applicable  Applicable...

### 6.2 Stratified data on surveillance and laboratory tests

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6.2.1 Stratified data on surveillance and laboratory tests for year : **2012**

Region	Animal Species	Test Type	Test Description	Number of samples tested	Number of positive samples	
<b>Estonia</b>	Domestic animals suspected	microbiological or virological test	<b>Fluorescent Antibody Test</b>	47	0	<b>X</b>
<b>Estonia</b>	Wild animals suspected	microbiological or virological test	<b>FAT</b>	143	0	<b>X</b>
<b>Estonia</b>	Foxes	microbiological or virological test	<b>FAT</b>	504	0	<b>X</b>
<b>Estonia</b>	Raccoon dogs	microbiological or virological test	<b>FAT</b>	1 496	0	<b>X</b>
<b>Estonia</b>	Foxes	other test	<b>Detection of tetracycline</b>	135	104	<b>X</b>
<b>Estonia</b>	Raccoon dogs	other test	<b>TC</b>	296	189	<b>X</b>
<b>Estonia</b>	Foxes	serological test	<b>AB-ELISA</b>	130	60	<b>X</b>
<b>Estonia</b>	Raccoon dogs	serological test	<b>AB-ELISA</b>	294	123	<b>X</b>
<b>Total</b>				3 045		
<b>ADD A NEW ROW</b>						

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6.3 Data on infection

Data on infection

Not applicable

Applicable...

6.3 Data on infection at the end of year :

2012

Region	Animal Species	Number of herds infected	Number of animals infected	
Estonia	Agricultural animals	0	0	<b>X</b>
<b>Total</b>		0	0	
		<b>Add a new row</b>		

6.4 Data on the status of herds

Data on the status of herds :

Not applicable

Applicable...

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6.5 Data on vaccination or treatment programmes

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

6.6 Data on wildlife

Data on Wildlife is :  Not applicable  Applicable...

6.6.1 Estimation of wildlife population for year : **2012**

Region	Species	Method of estimation	Estimation of the population	
Estonia	fox	hunting bag	6 474	X
Estonia	raccoon dog	hunting bag	13 111	X
			<b>ADD A NEW ROW</b>	

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### 6.6.2 Disease surveillance and other tests in wildlife for year :

**2012**

Region	Species	Test type	Test Description	Number of samples tested	Number of positive samples	
Estonia	Wild animals suspected	other test	Fluorescent Antibody Test (FAT)	143	0	X
Estonia	fox	other test	FAT	504	0	X
Estonia	raccoon dog	other test	FAT	1 496	0	X
Estonia	fox	Biomarker detection	Detection of tetracycline (TC)	135	104	X
Estonia	raccoon dog	Biomarker detection	TC	296	189	X
Estonia	fox	serological test	ELISA	130	60	X
Estonia	raccoon dog	serological test	ELISA	294	123	X
<b>ADD A NEW ROW</b>						

### 6.6.3 Data on vaccination or treatment of wildlife for year : **2012**

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	
Buffer-zone (spring)	9 325	186 400	1	186 400	X
Buffer-zone (autumn)	9 325	186 800	1	186 800	X

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			<b>ADD A NEW ROW</b>	
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### 7. 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.

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

##### 7.1.1 Targets on diagnostic tests for year : **2014**

Region	Type of the test	Target population	Type of sample	Objective	Number of planned tests	
Estonia	FAT	suspected animals	brain tissue	confirmation of suspected cases	350	X
Estonia	PCR	suspected animals	brain tissue	confirmation of suspected cases	100	X
Estonia	CC	suspected animals	brain tissue	confirmation of suspected cases	100	X
Estonia	FAT	Foxes and Raccoon dogs	brain tissue	surveillance, monitoring of campaigns	2 000	X
Buffer-zone in Estonia	TC detection	Foxes and Raccoon dogs	mandibula, tooth	monitoring of campaigns	460	X
Buffer-zone in Estonia	ELISA	Foxes and Raccoon dogs	serum	monitoring of campaigns	460	X
Estonia	PCR (sequencing)	animals tested positive fo	brain tissue	virus strain genotyping	10	X

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Buffer-zone in Leningrad Region	Virology	Foxes and Raccoon dogs	brain tissue	surveillance, monitoring of campaigns	186	X
Buffer-zone in Leningrad Region	TC detection	Foxes and Raccoon dogs	mandibula, tooth	monitoring of campaigns	186	X
Buffer-zone in Leningrad Region	Serology	Foxes and Raccoon dogs	serum	monitoring of campaigns	186	X
<b>Total</b>					4 038	
<b>Add a new row</b>						

7.1.2 Targets on testing herds and animals

7.1.2.1 Targets on testing herds

Not applicable

Applicable...

7.1.2.2 Targets on testing animals

Not applicable

Applicable...



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7.2 Targets on qualification of herds and animals

Targets on qualification of herds and animals  Not applicable  Applicable...

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 : **2014**

Region	Animal species	Total number of herds in vaccination or treatment programme	Total number of animals in vaccination or treatment programme	Targets on vaccination or treatment programme						
				Number of herds in vaccination or treatment programme	Number of herds expected to be vaccinated or treated	Number of animals expected to be vaccinated or treated	Number of doses of vaccine or treatment expected to be administered	Number of adults expected to be vaccinated	Number of young animals expected to be vaccinated	
Estonia	Dogs and cats (also agr	0	0	0	0	50 000	50 000	0	0	X

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<b>Total</b>	0	0	0	0	50 000	50 000	0	0
						<b>Add a new row</b>		

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

7.3.2 Targets on vaccination or treatment of wildlife for year : **2014**

Region	Square km	Targets on vaccination or treatment programme			
		Number of doses of vaccine or treatments expected to be administered in the campaign	Expected number of campaigns	Total number of doses of vaccine or treatment expected to be administered	
Buffer-zone along border with Russian Federation and Latvia	9 325	186 500	2	373 000	<b>X</b>
Emergency vaccination in case of urgency	8 000	160 000	2	320 000	<b>X</b>
Buffer-zone in Leningrad Region	4 660	116 500	1	116 500	<b>X</b>
<b>Total</b>		463 000		809 500	
			<b>Add a new row</b>		

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### 8. Detailed analysis of the cost of the programme for year : **2014**

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

To facilitate the handling of your cost data, you are kindly requested to:

1. Fill-in the text fields IN ENGLISH
2. Limit as much as possible the entries to the pre-loaded options where available.
3. If you need to further specify a pre-loaded option, please keep the pre-loaded text and add your clarification to it in the same box.

1. Testing							
Cost related to	Specification	Unit	Number of units	Unitary cost in EUR	Total amount in EUR	Union funding requested	
Cost of analysis	Fluorescent Antibody test (FAT), suspected animals	Individual animal sample/test	350	39.36	13776	yes	X
Cost of analysis	PCR, suspected animals	Individual animal sample/test	100	71.2	7120	yes	X
Cost of analysis	Cell culture (CC), suspected animals	Individual animal sample/test	100	76.26	7626	yes	X
Cost of analysis	PCR (sequencing- in case of positive result)	Individual animal sample/test	10	127.82	1278,2	yes	X
Cost of analysis	Fluorescent Antibody test (FAT), foxes and raccoon dogs	Individual animal sample/test	2 000	39.36	78720	yes	X
Cost of analysis	Tetracycline detection	Individual animal sample/test	460	18.35	8441	yes	X
Cost of analysis	Elisa (antibody)	Individual animal sample/test	460	22.6	10396	yes	X
Cost of sampling	Collection of head sample from foxes/raccoon dogs	Individual animal sample/test	2 000	11.4	22800	yes	X
Cost of sampling	Collection of blood sample from foxes/raccoon dogs	Individual animal sample/test	460	11.4	5244	yes	X

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Other cost	Transportation of samples	Individual animal sample/test	2 000	4.63	9260	yes	<b>X</b>
Other cost	Autopsy (foxes and raccoon dogs)	Individual animal sample/test	2 000	17.15	34300	yes	<b>X</b>
Other cost	Autopsy (suspected animals)	Individual animal sample/test	350	17.15	6002,5	yes	<b>X</b>
						<b>Add a new row</b>	
<b>2. Vaccination or treatment</b>							
Cost related to	Specification	Unit	Number of units	Unitary cost in EUR	Total amount in EUR	Union funding requested	
Purchase of vaccine	Wildlife oral vaccination, Estonia	Vaccine dose	693 000	0.89	616,770	yes	<b>X</b>
Distribution costs	Wildlife oral vaccination, Estonia	Square Kilometre of distribution	34 650	6.41	222,106.5	yes	<b>X</b>
Purchase of vaccine	Wildlife oral vaccination, Leningrad Region	Vaccine dose	116 500	0.6	69900	yes	<b>X</b>
Distribution costs	Wildlife oral vaccination, Leningrad Region	Square Kilometre of distribution	4 660	8.75	40775	yes	<b>X</b>
						<b>Add a new row</b>	
<b>3. Slaughter and destruction</b>							
Cost related to	Specification	Unit	Number of units	Unitary cost in EUR	Total amount in EUR	Union funding requested	
NA	NA	NA	0	0	0	no	<b>X</b>
						<b>Add a new row</b>	
<b>4. Cleaning and disinfection</b>							
Cost related to	Specification	Unit	Number of units	Unitary cost in EUR	Total amount in EUR	Community funding requested	
NA	NA	NA	0	0	0	no	<b>X</b>

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						<b>Add a new row</b>		
<b>5. Salaries (staff contracted for the programme only)</b>								
Cost related to	Specification	Unit	Number of units	Unitary cost in EUR	Total amount in EUR	Union funding requested		
NA	NA	NA	0	0	0	no		<b>X</b>
						<b>Add a new row</b>		
<b>6. Consumables and specific equipment</b>								
Cost related to	Specification	Unit	Number of units	Unitary cost in EUR	Total amount in EUR	Union funding requested		
NA	NA	NA	0	0	0	no		<b>X</b>
						<b>Add a new row</b>		
<b>7. Other costs</b>								
Cost related to	Specification	Unit	Number of units	Unitary cost in EUR	Total amount in EUR	Union funding requested		
Awareness campaign	Organization of awareness campaign	campaign	2	3515.6	7031.2	yes		<b>X</b>
						<b>Add a new row</b>		
<b>Total</b>					1 161 546,40 €			

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### 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 : jpg, jpeg, tiff, tif, xls, doc, bmp, pna, pdf.
- 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!