



Results of the implementation of the Rabies co-financed eradication programme in 2016

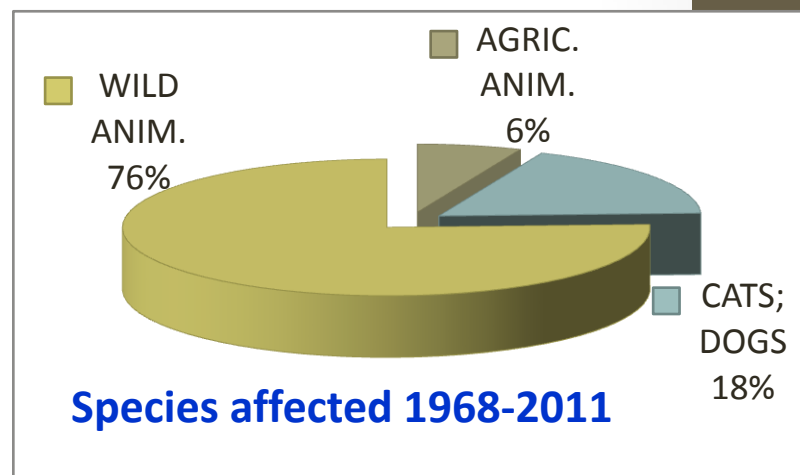
ESTONIA

Standing Committee PAFF
16 May 2017
Brussels

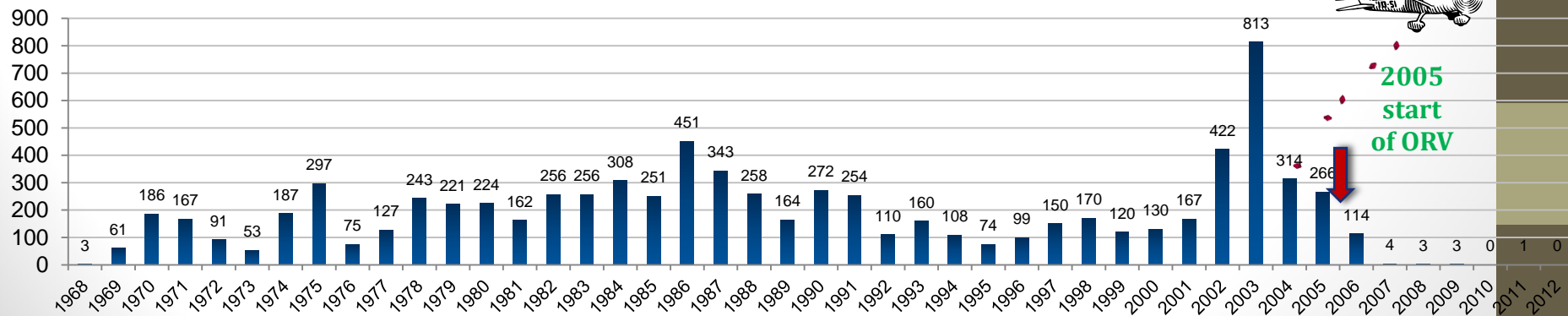


History of rabies in Estonia

- **Urban rabies** widespread till 1959, ~300 cases/year
- Eradication: compulsory vaccination of dogs and cats since 1953 (ongoing)/euthanasia of stray animals
- **Rabies-free period: 1960 -1967**
- **Sylvatic rabies** since 1968 spread from east over the total territory
 - Rabies reservoir: Fox
 - Important transmitter: Raccoon dog

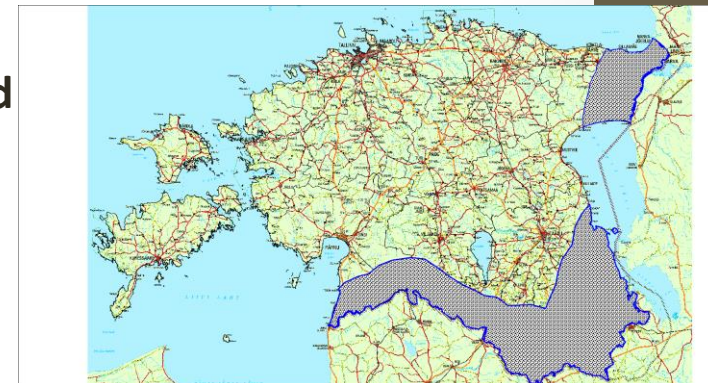
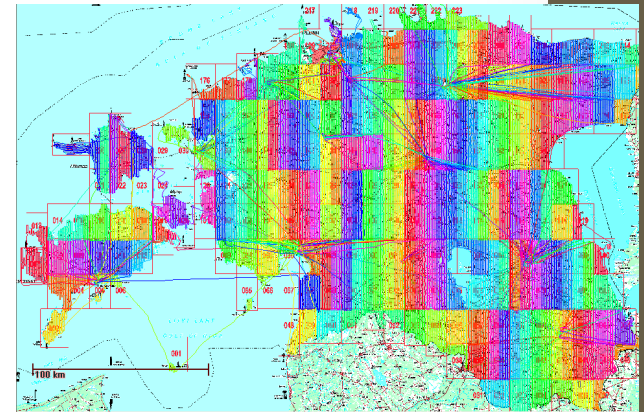
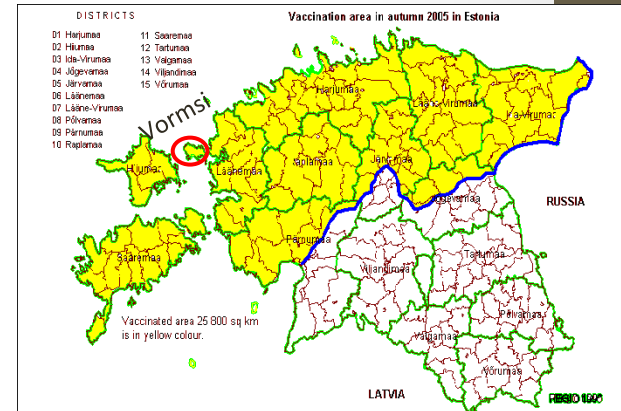


Number of positive cases (domestic and wildlife) in Estonia (1968-2015)



History of oral rabies vaccination (ORV)

- June and September 2005 : feasibility trial of ORV by manual distribution in Vormsi island (92 Km²)
- November 2005- first large-scale ORV in Northern part of Estonia, 25,540 km²
- 2006-2010
 - Total territory (45,226 km²) covered by ORV
 - area suitable for dropping ~43,000 km²
- 2011-2014
 - Buffer zone ORV in 9,325 km² area
 - Depth of immune –belt:
 - 30 km in north –east near river Narva (Leningrad Region of Russian Federation)
 - 50 km in south-east (Pskov Region of RF)
 - 20-30 km in south (Latvian Republic)



Rabies cases since 2008

- Last case excluding bordering areas

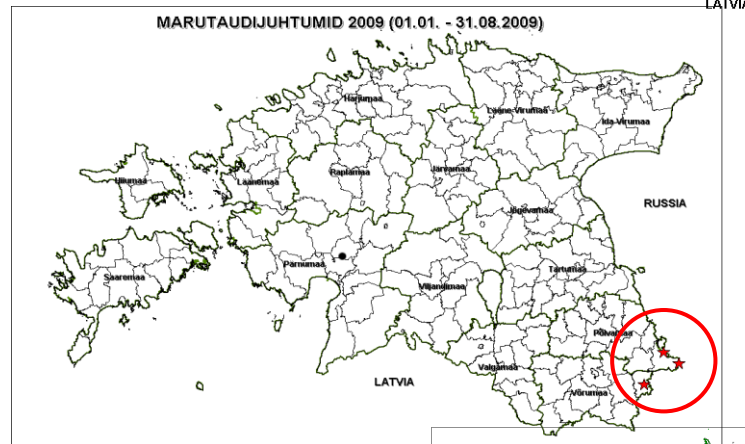
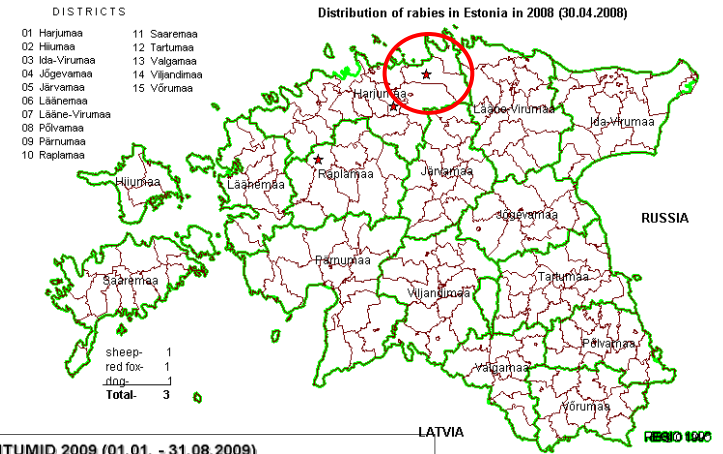
- March 2008, dog in Harju county

- Last cases diagnosed since then 1-5 km from border with Pskov Region of RF:

- Summer 2009 -3 foxes

- January 2011- 1 raccoon dog

- On 3 April 2013 self-declaration on the recovery of its rabies free status

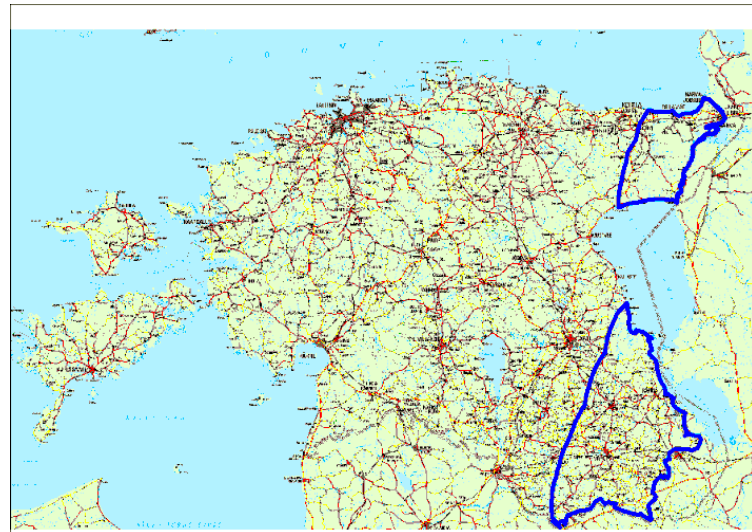


Legal framework of 2016 programme

- **EU legal basis:**
 - **Commission Decision 625/2014/EU**
 - **Working Document SANCO/10181/2014 Rev5**
 - **Working Discussion Document SANTE/10201/2015 Rev1**
 - **Commission Implementing Decision 29.05.2015, C(2015) 3609**
 - **Grant Decision SANTE/2016/EE/SI2.725986 (as amended)**
- **Relevant Estonian legal acts:**
 - **Infectious Animal Disease Control Act (16 June 1999)**
 - **Regulation of Minister of Agriculture No 67 (20. November 2000) “Rules for Rabies Prevention”**
 - **State Program of Rabies Eradication 2016-2020 approved by Degree of DG of Veterinary and Food Board 11.02.2016 no. 24**
 - **State Program of Monitoring and Surveillance of Infectious Diseases approved annually by CVO (22.01.2016 no 11)**

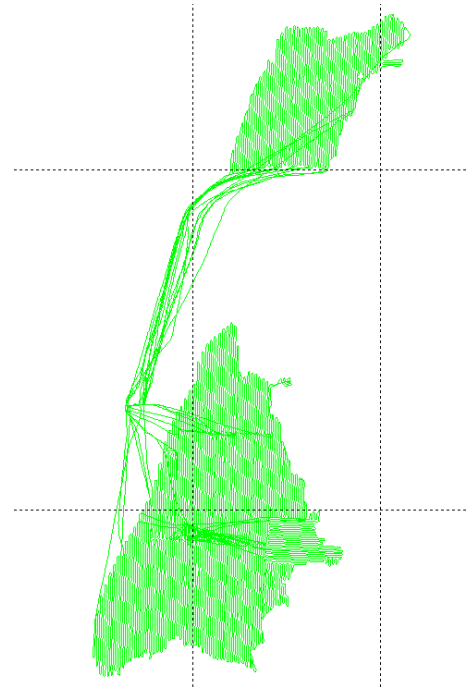
ORV in 2016, vaccination area

- As Latvia officially free from rabies since 2015 areas bordering excluded from ORV activities since then
- Immune belt retained between Estonia and Russian Federation to prevent reintroduction of rabies
- Depth of immune –belt:
 - 30 km in north –east in coast of river Narva bordering Leningrad Region
 - 50 km in south-east bordering by land with Pskov Region
- Total territory of buffer –zone ~6 200 km²
- Area suitable for bait-dropping 6 100 km²
 - Areas excluded from baiting:
 - urban areas, buildings
 - water bodies, wet fields
 - active coal mines
 - animal pastures in use



ORV in 2016, vaccination strategy (1)

- 2 seasonal campaigns per year:
 - Spring - from 19th to 24th May
 - Autumn- 19th to 24th of September
- Baiting density: 20 baits/km²
- Rabigen SAG2 baits
 - 244 400 baits distributed in total
 - 122 000 baits in spring
 - 122 400 baits in autumn
- Distribution by fixed-wing planes type Cessna 172 (2/per day)
- Bait- dropping carried out by trained staff by hand
- Territory divided into 28 distribution areas
- Dropping lines distance- 550-600m
- Altitude form ground – 100- 150 m
- Flight speed – 160 - 180 km/h



ORV in 2016, vaccination strategy (2)

- **GPS system (GARMIN Aera 500) to record flight data**
- **No additional manual distribution**
- **10 samples from all vaccine batches (5 in total) sent to ANSES Nancy for titration, favorable results available before start of ORV**
- **Refrigerated lorry (-20° C) at the airports for bait storage**
- **Continuous checks on maintenance of the cold-chain**
- **Efficiency control**
 - **ORV monitoring (July 2016– late March 2017)**
 - **Passive surveillance of the virus all year round**

Evaluation of ORV efficacy

Investigations in Central Veterinary and Food Laboratory in Tartu (NRL)

- **Rabies surveillance:**
 - suspected cases of all species- authorised veterinarians
 - indicator animals of reservoir species- hunters
 - healthy animals hunted excluded from the test group

Methods in use FAT, PCR, bioassay-CC, genotyping in CRL (if necessary)

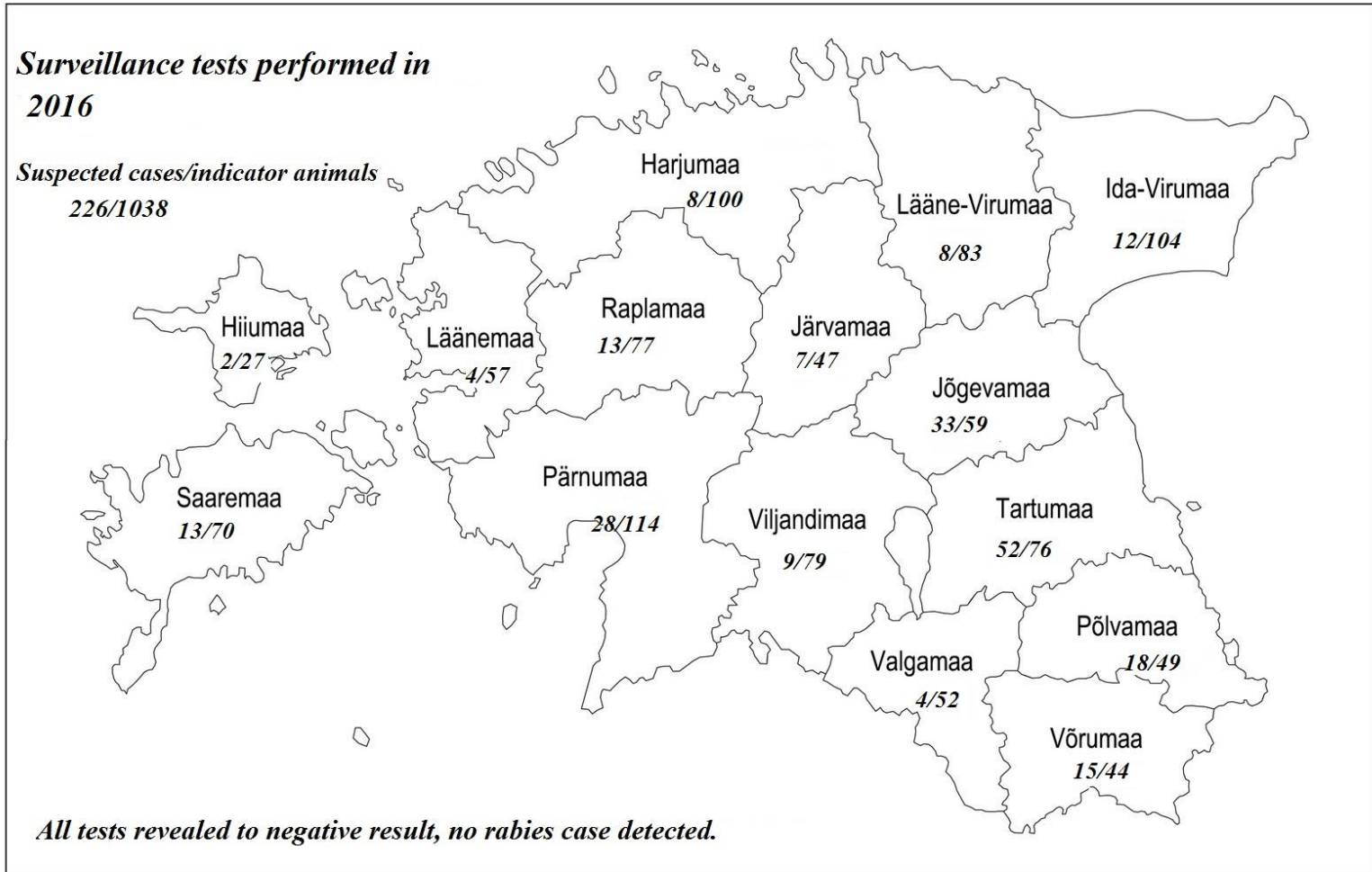
- **Monitoring vaccination efficiency:**
- **sample effort: 4 animals/100 km² in ORV area/annually**
- **samples collected by hunters**

- **Bait consumption: tetracycline marks in canine teeth**
- **Age determination of all tested animals**
- **Immunisation: detection of rabies antibodies by ELISA**

Surveillance in 2016

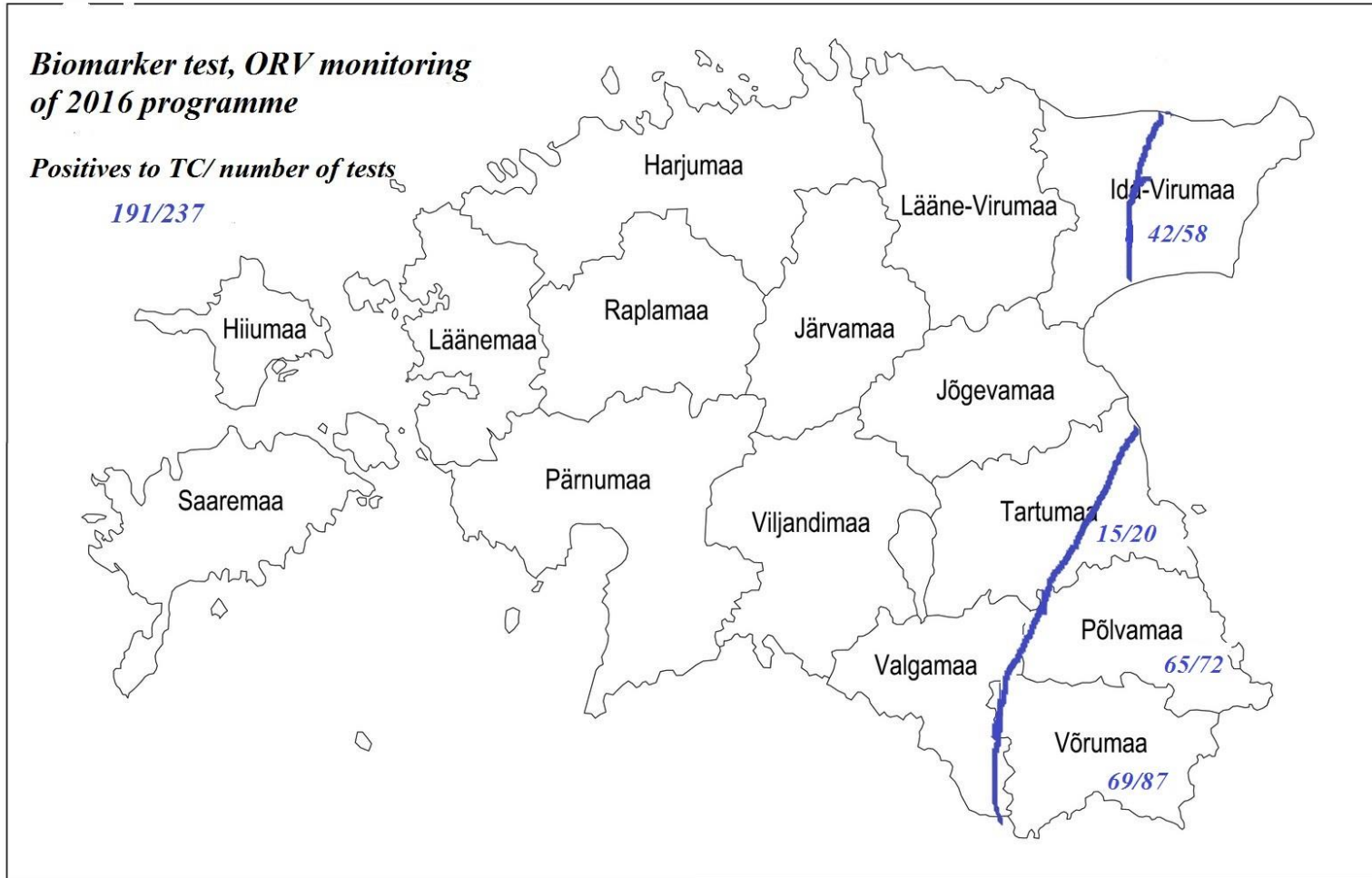
Indicator animals tested for virus: 1038, 330 foxes/708 raccoon dogs

Suspected animals tested for virus: 226, wildlife- 196, domestic- 30



Results of marker detection in 2016

- ~81% of tested animals found positive,
 - ~ 78 % of foxes / ~ 83 % of racoon dogs



Results of seroconversion in 2016

- ~53% of tested animals found positive,
 - ~ 49 % of foxes / ~ 58 % of racoon dogs

*Serological tests, ORV monitoring
of 2016 programme*

Positives to AB/number of tests



Financial aspects 2016

- **All main costs in total (VAT incl): 454 987 €**
 - Vaccine supply + distribution 312 783 €
 - Samples collection 244 672 €
 - Laboratory investigations 90 692 €
 - Information campaign 5 892 €
 - Administrative costs 948 €
 - **Eligible costs in total (VAT excl.): 326 052 €**
- Maximum amount of Community co-financing
(Grant Decision SANTE/2016/EE/SI2.725986 as amended)
371 000 EUR

ORV in current year

- **OV in buffer zone (~6 200 km²) along the borders with Russian Federation as in previous two years**
 - Spring campaign started on 15th of May (till ~21^h of May)
 - Autumn campaign will follow
- **No change in distribution pattern, vaccine and baiting density**
- **Monitoring of ORV (bait consumption, herd immunity) will start in July**
- **Passive surveillance in I quarter 2017:**
 - 86 suspected cases
 - 288 indicator animals
- **Rabies-freedom retained until nowadays.**



Photo: Aivar Alt, VFB of Estonia

Thank you for attention!