



REPUBLIC OF ESTONIA
VETERINARY AND FOOD BOARD

Results of the implementation of the Rabies co-financed eradication programme in 2015

ESTONIA

Standing Committee PAFF
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Brussels



Photo: www.nature-photogallery.eu

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Flashback, rabies in Estonia

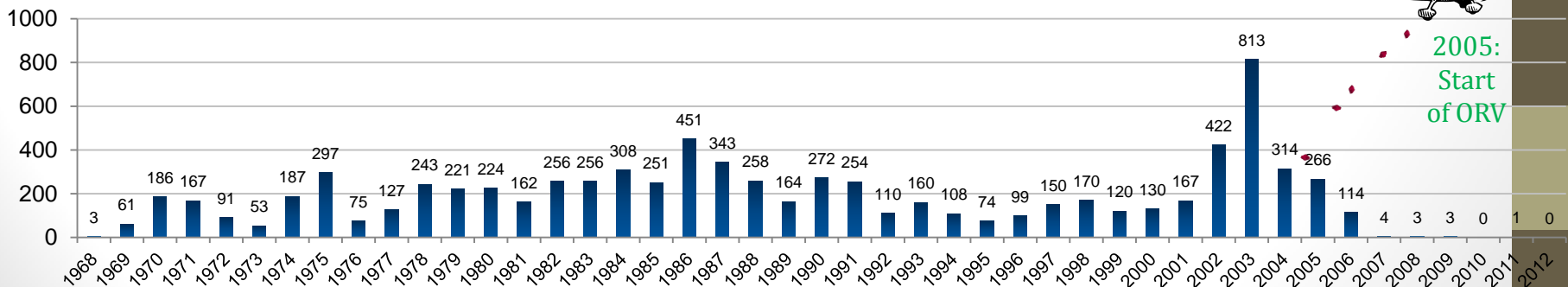
- After II World War urban rabies, no wildlife involvement, ~300 cases recorded annually
- Compulsory vaccination of pets since 1953
- 1960 – 1967- no cases found
- Since 1968 spread of sylvatic rabies from southern-east over the total territory of country including islands
- Rabies reservoir animals:
 - Foxes (*vulpes vulpes*)
 - Raccon dogs (*Nycterentes procyonoides*)



— Border with Russia: 294 Km

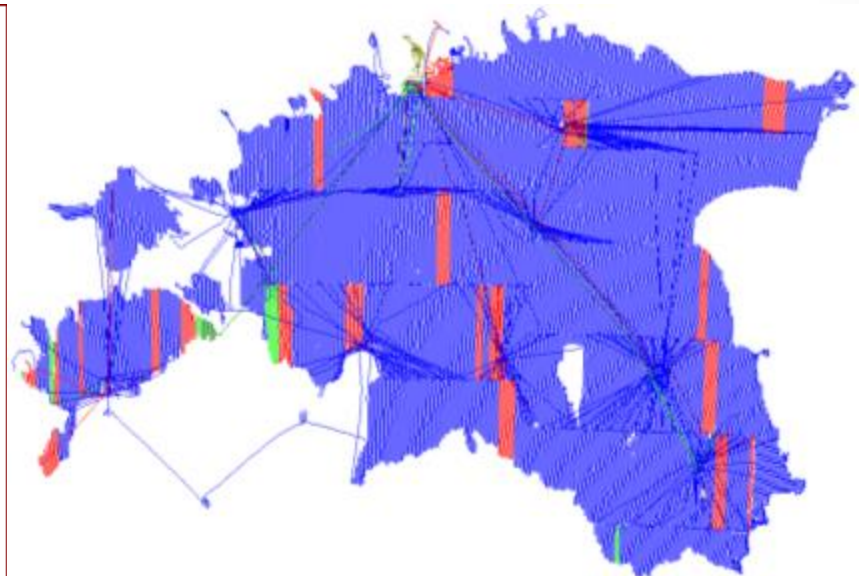
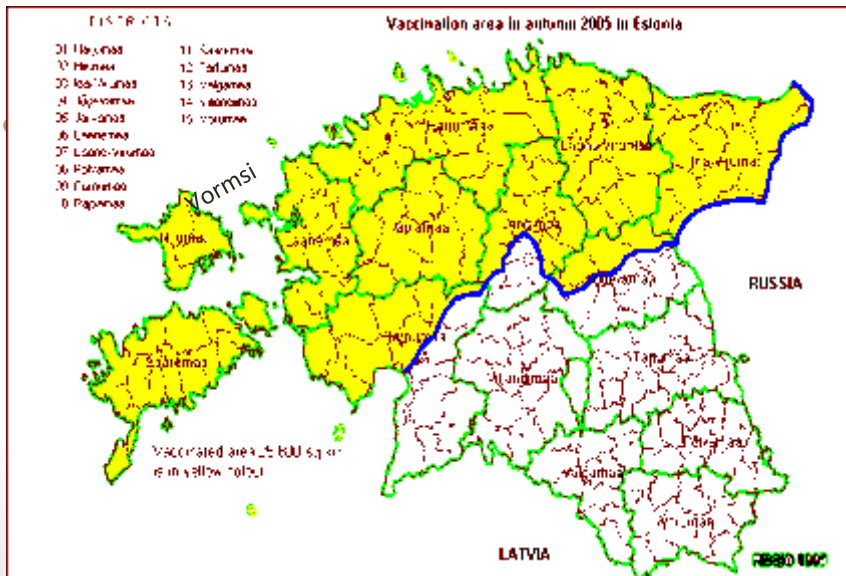
— Border with Latvia: 339 Km

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



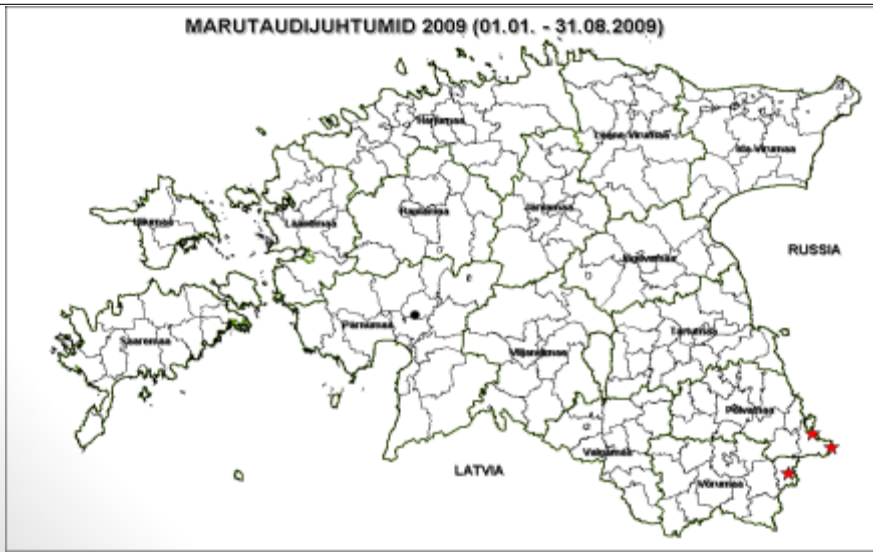
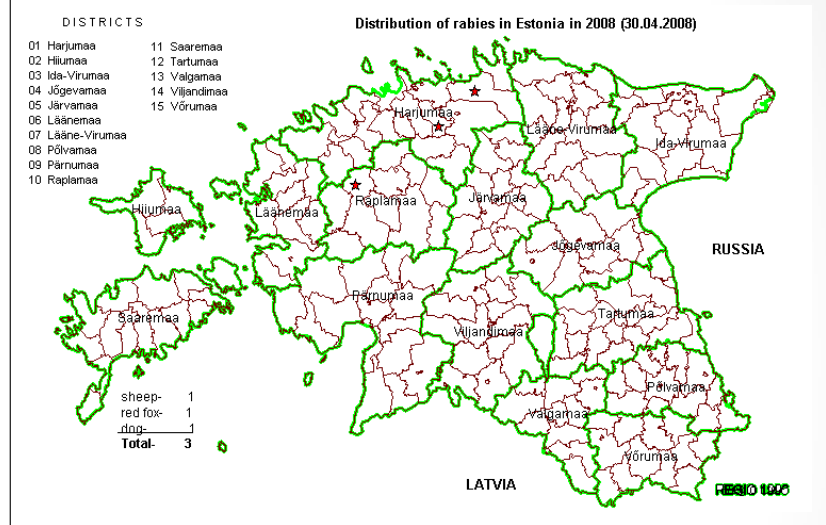
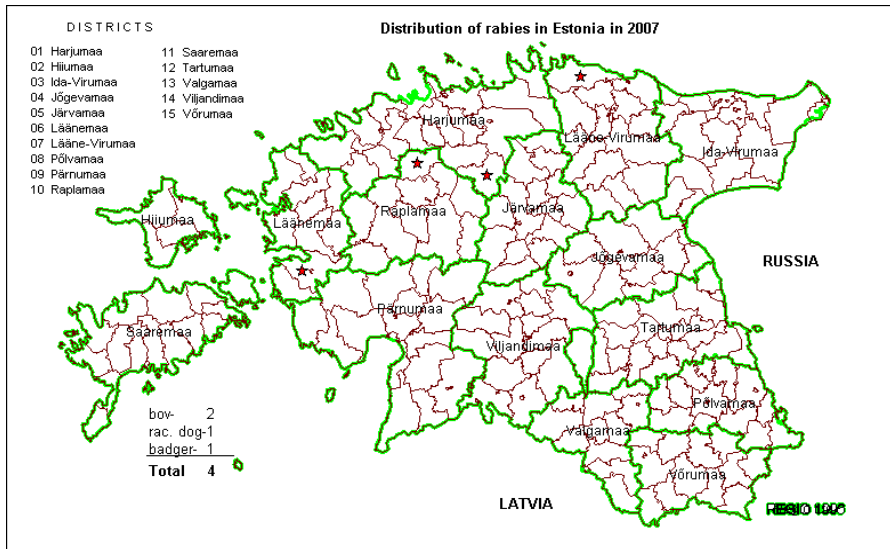
Oral rabies vaccination (ORV) in Estonia

- 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 covered by ORV (45,226 Km²)
- 2011-2014: “Buffer zone” ORV (Latvia, Russia- 9,325 Km²)



Rabies cases in 2007, 2008, 2009, 2011

- Last native case -March 2008, final 4 cases 2009 and 2011 wildlife, 1-5 km from border with Pskov Region of RF



Legal framework of 2015 programme

- **EU legal basis:**

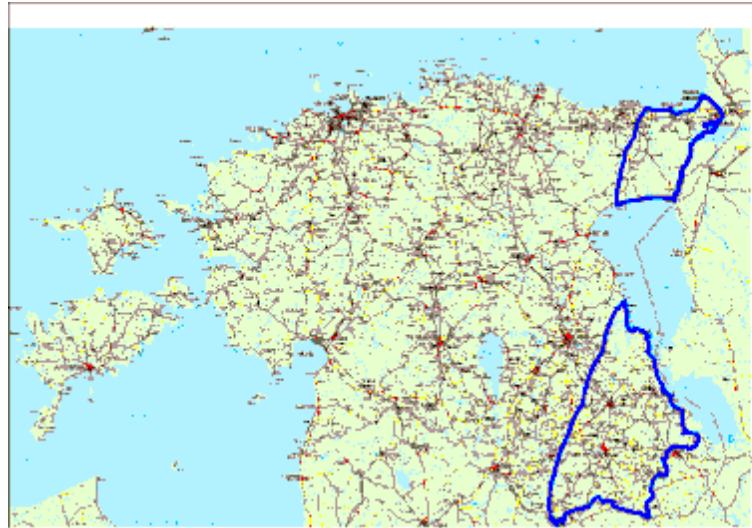
- **Commission Decision 2014/625/EU**
- **Working Document SANCO/10181/2014 Rev2**
- **Commission Implementing Decision 16.10.2014, C(2014) 7437**
- **Grant Decision SANTE /VP/2015/EE/SI2.700815**

- **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 2011-2015 approved by Degree of DG of Veterinary and Food Board 09.03.2011 no. 63**
- **State Program of Monitoring and Surveillance of Infectious Diseases approved annually by CVO (26.01.2015 no 20)**

ORV in 2015, vaccination area

- Reduction of ORV area $\sim 1/3$ compared to previous years
- Latvian border excluded from ORV activities, as officially free from rabies since 2015
- Immune belt retained between Estonia/Leningrad and Pskov Region of RF to prevent reintroduction of rabies
- Territory of buffer –zone 6 100 km²
- Depth of immune –belt:
 - 30 km in north –east in coast of river Narva (Leningrad region)
 - 50 km in south-east (Pskov Region)
- Urban areas, roads, water bodies, wet fields, active coal mine areas excluded from baiting.



ORV in 2015, vaccination strategy (1)

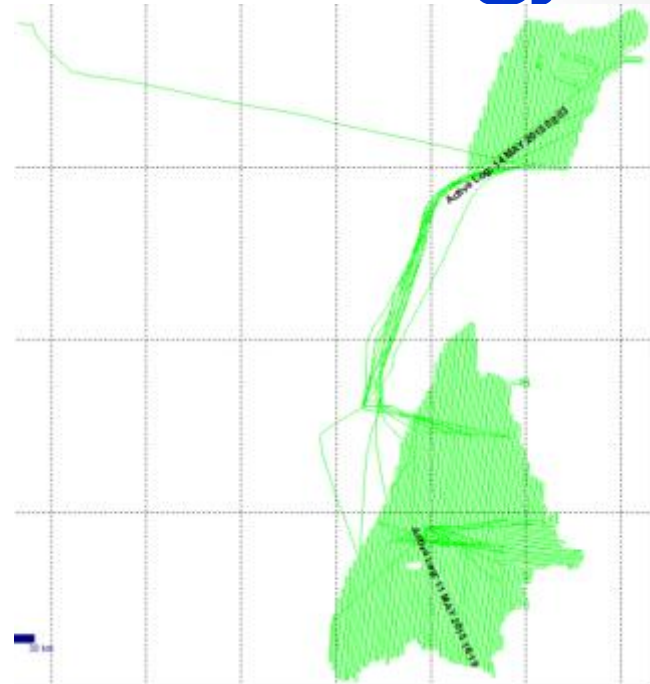
- 2 seasonal campaigns per year:
 - Spring - from 11th to 16th May
 - Autumn- 21th to 27th of September

- Baiting density: 20 baits/km²

- Rabigen SAG2 baits

- 243 600 baits distributed in total
 - 121 600 baits in spring
 - 122 000 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- 600m
- Altitude form ground – 100- 150 m
- Flight speed – 160 - 180 km/h



ORV in 2015, vaccination strategy (2)

- **GPS system (GARMIN Aera 500) to record flight data**
- **No additional manual distribution**
- **10 samples from all vaccine batches (3 in total) sent to ANSES Nancy for titration, favorable results available before start of ORV**
- **Refrigerated lorrie (-20° C) at the airports for bait storage**
- **Continuous checks on maintenance of cold-chain**

- **Efficiency control, ORV monitoring (July 2015– mid.-March 2016)**
- **Passive and active surveillance of virus all year round**

Evaluation of ORV efficacy

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

- Rabies prevalence
 - passive surveillance (authorised vets, hunters)
 - active surveillance (hunters)
 - Methods in use FAT, PCR, bioassay-CC
- Bait consumption: tetracycline marks in canines
 - Age determination of all tested animals
- Immunisation: titration of rabies antibodies by ELISA
- Genotyping of positive cases (in ANSES Nancy, CRL)

- Since 2015 only suspected animals of all species and indicator animals of reservoir species tested for virus (all healthy excluded from test group)
- Sample collection ratio planned for ORV monitoring on healthy animals:
 - 4 animals/100 km² in ORV area

Surveillance in 2015

Indicator animals tested for virus: 642, 168 foxes/474 raccoon dogs

Suspected animals tested for virus: 160, wildlife- 128, domestic- 32

Surveillance tests performed in 2015.

*Inspected cases/indicator animals
160/642*



All tests revealed to negative result, no rabies case detected.

Results of marker detection in 2015

- ~81% of tested animals found positive,
 - ~ 91 % of foxes /~ 77 % of racoon dogs



Results of seroconversion in 2015

- ~58% of tested animals found positive,
 - ~ 61 % of foxes /~ 57 % of racoon dogs

*Serological tests, ORV monitoring
of 2015 programme*

Positives to AB/number of tests



Financial aspects 2015

- **All main costs in total (VAT incl): 438 663 €**
- Vaccine supply + distribution 303 626 €
- Samples collection 24 015 €
- Laboratory investigations 108 940 €
- Information campaign 820 €
- Administrative costs 1 262 €
- **Eligible costs in total (VAT excl.): 296 248 €**
- Maximum amount of Community co-financing
(Grant Decision SANTE /VP/2015/EE/SI2.700815)
298 000 EUR

ORV in current year

- **OV in buffer zone (6 100 km²) along the borders with Russian Federation as in 2015**
 - **Spring campaign enforced 19th to 24^h of May**
 - **Autumn campaign begins 19.09.**
- **Similar distribution strategy, baiting density, vaccine e.c.**
- **Monitoring of ORV (bait consumption, herd immunity) started in July**
- **Unbroken surveillance (suspected cases, indicator animals).**

- **Last case in January 2011, rabies-freedom retained until nowadays.**



Thank you for attention!