



State
Veterinary
Administration

African swine fever in wild boar in the Czech Republic

SCoPAFF, Brussels, 25. 2. 2019
Petr Šatrán



ASF regionalisation as per Commission implementing Decision 2014/709/EU

First occurrence of ASF



First ASF positive carcass location:
Přiluky, Zlín district
Date: 26th June 2017



Way of ASF introduction?



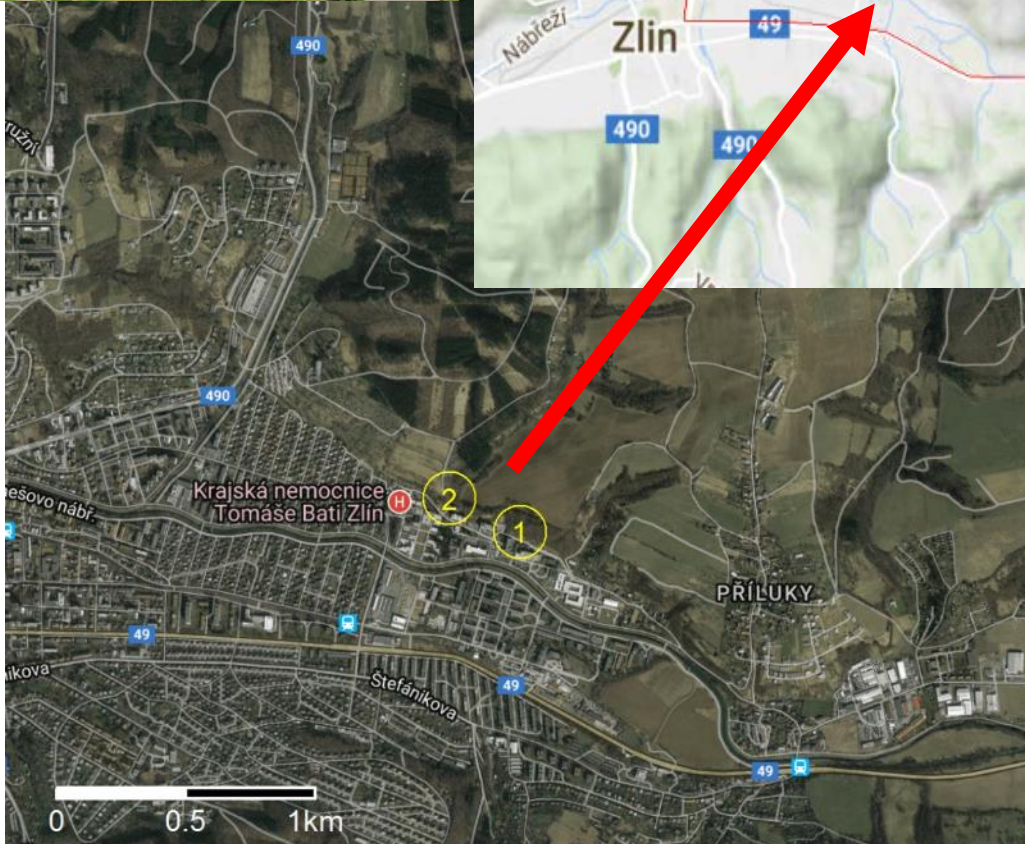
First ASF case in the Czech Republic

- Zlín city - inhabited area
- 1st WB carcasses found nearby the local hospital



First ASF case in the Czech Republic

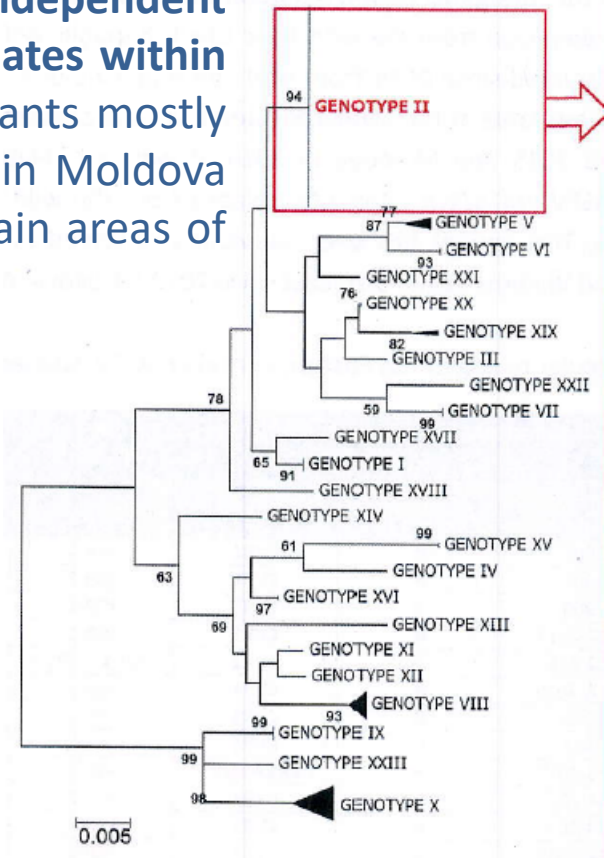
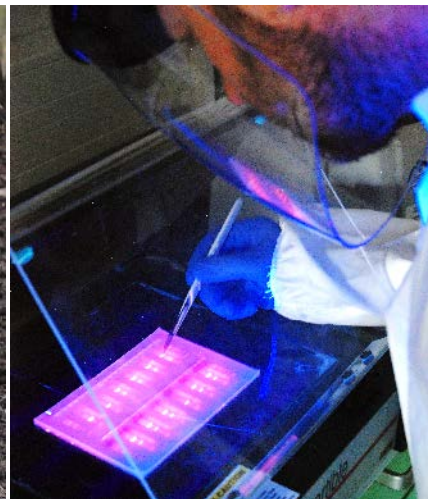
The real source of infection?



Molecular characterisation of the Czech ASFV isolates (EURL for ASF, INIA-CISA)

The **p72 genotyping** of the Czech Republic wild boar ASFV strains clustered the viruses within **p72 genotype II** circulating in the Eastern European countries since the first introduction in Georgia in 2007.

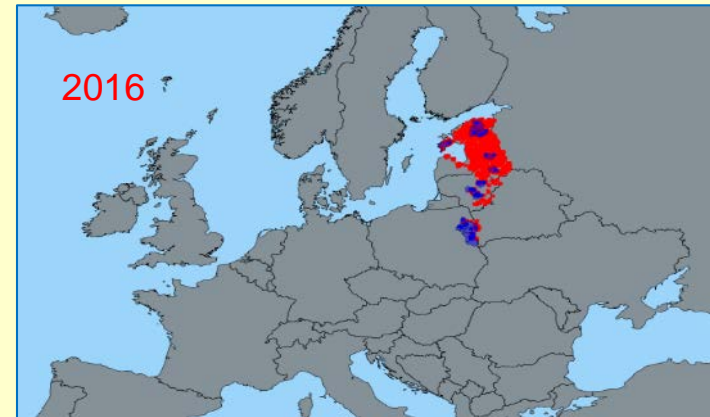
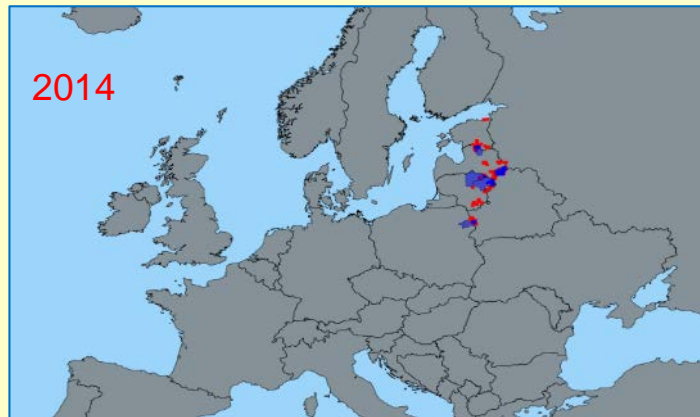
Further **subtyping** throughout the analysis of three independent ASFV genome regions, clustered the Czech Republic isolates within the **CVR-I, IGR-2 and MGF1 variants**. These are the variants mostly circulating within the EU countries as well as described in Moldova (2016), Ukraine (2012, 2015), Belarus (2013) and in certain areas of the Russian Federation.



ASF - before the first case in the Czech Republic

PASSIVE SURVEILLANCE - key element for early detection

Since 2014, African swine fever (ASF) has been occurring in Estonia, Latvia, Lithuania and Poland



Therefore, starting from 2014, all wild boars found dead in the whole territory of the Czech Republic have been tested for ASF; this passive monitoring continues.

Numbers of found and tested dead wild boars – the whole Czech Republic 2014 - 2019												
Year	2014		2015		2016		2017		2018		2019 (to 24. 2.)	
No of tested /positive	243	0	348	0	404	0	1 622	191	1 404	21	59	0

The countrywide monitoring of ASF was a key element in early detection of ASF in the Czech Republic and allowed an immediate and effective response by the State Veterinary Administration

ASF – Epidemiological situation from 26. 6. 2017 to 22. 2. 2018

A total **230** cases of African swine fever have been detected in the wild boar population

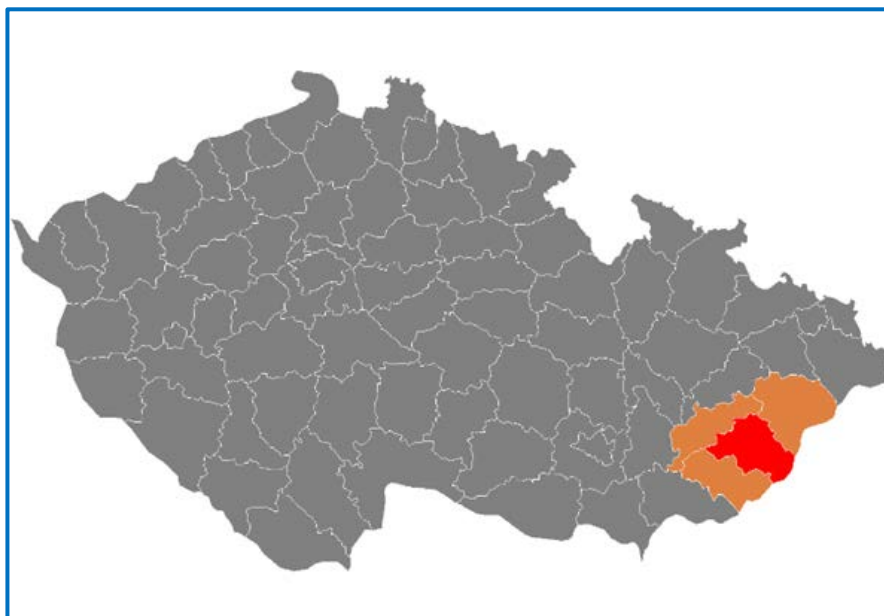
- The total number of positive cases in found dead wild boar: **212** (last positive cases **15. 4. 2018**)
- The total number of positive cases in hunted wild boar: **18** (last positive cases **8. 2. 2018**)

All positive cases have been detected only in District of Zlín.

■ Infected area (Part II) – District of Zlín

■ Part I

**NO OUTBREAK
IN DOMESTIC PIGS**



Measures applied



ASF measures in 4 (5) levels in the Czech Republic



- ✓ Intensive hunting area: 8500 km² (District Zlín excluded)
 - ✓ District Zlín: 1033 km²
 - ✓ Infected area with low risk: $1033 - 159 = 874$ km²
 - ✓ Infected area with high risk: 159 km²
 - ✓ Infected area with the highest risk (inside the fences): 57 km²

ASF - Total number of wild boars and domestic pigs ASF tested/positive (26. 6. 2017 – 31. 01. 2018)

WILD BOARS

1) Infected area (Part II according to the EU regionalisation)

- found dead 444 / **212 positive (47 %)**
- hunted 3 758 / **18 positive (0,5%)**

2) Other areas of the Zlín region (Part I)

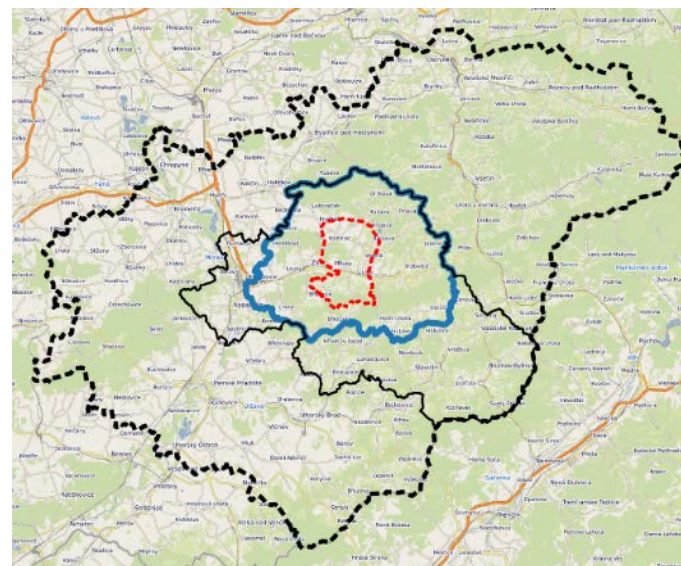
- found dead 154 / **0 positive**
- hunted 11 563 / **0 positive**

3 Area with intensive hunting (without Part I and II areas)

- hunted 12 343 / **0 positive**

4) The whole Czech Republic (without Part I and II areas)

- found dead 2 299 / **0 positive**



DOMESTIC PIGS

Total number of domestic pigs tested / positive	Part II		Part I	
	Active	Passive	Active	Passive
	337 / 0	109 / 0	723 / 0	1212 / 0

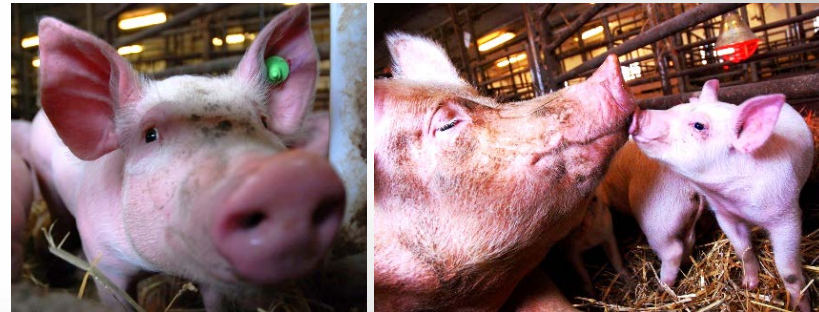
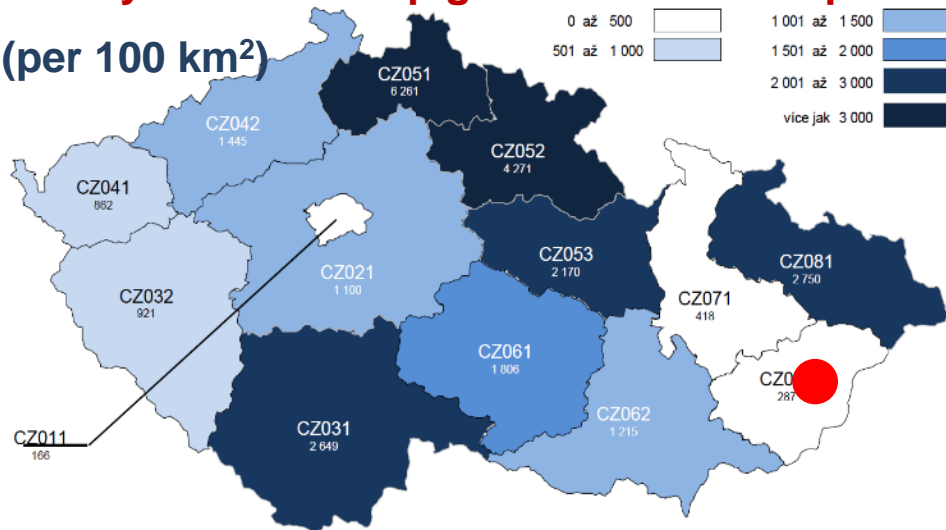
ASF measures for domestic pigs in Part II

INCREASE BIOSECURITY AND AVOID CONTACT BETWEEN WILD BOAR AND DOMESTIC PIGS

- ban on keeping of pigs in backyard farms and in non-registered holdings in the infected area
- enhanced passive surveillance in pig farms - farmers must report all sick/dead pigs in the infected area (all cases are tested for ASF)
- movement of pigs only with authorisation issued by the RVA for Region Zlín.
- ban on feeding with fresh grass, ban on straw bencoding
- official controls in pig farms in accordance with Commission Implementing Decision 2014/709/EU. Targeted for **BIOSECURITY**.
- information campaign

Density of domestic pigs in the Czech Republic

(per 100 km²)



	farms	pigs
Czech Republic	2 160	1 353 935
Zlín region	83	74 088
infected area (district Zlín)	23	16 301

ASF measures in wild boar in Part II

- **enhanced passive surveillance of WB found dead** (motivated searching of carcasses)
- **ban on hunting** (any species, any hunting system) **and later** hunting of WB was allowed but **only by individual hunting and trapping** (selected and trained hunters)
- **ban on feeding** (only baiting allowed)
- **ban of entrance** for the general public into the infected area
- all hunted and found dead WB **must be disposed of in the rendering plant (+ tested for ASF)**
- **unharvest fields left to provide food and shelter for wild boars**
- **financial rewards:** each finding of **dead wild boar** - 194 €.

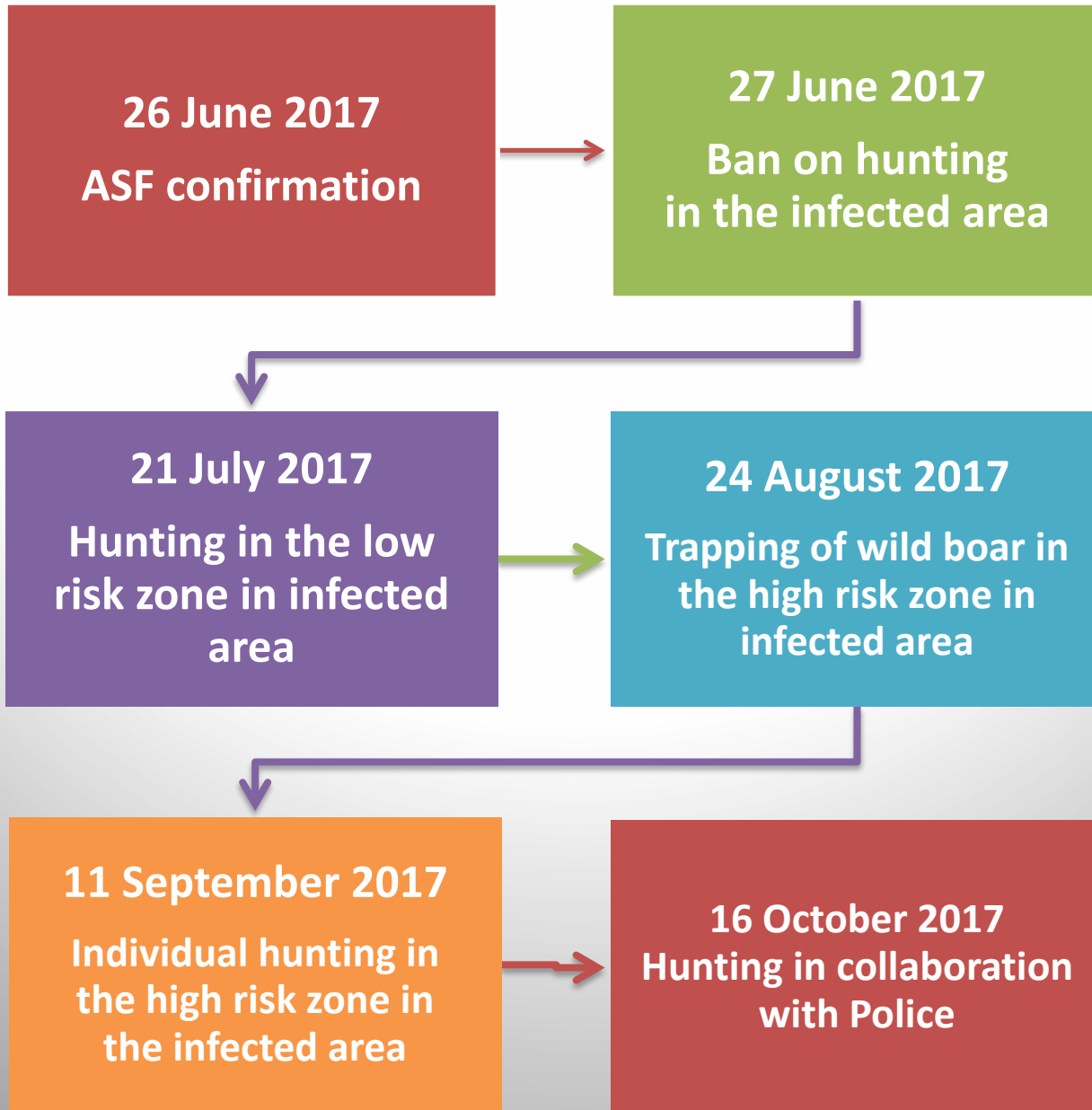
each **hunted young wild boar (up to 50 kg)** - 155 €.

each **hunted adult wild boar (over to 50 kg)** - 310 €.

+ compensation for piglet **39 €**, one-year old **78 €**, adult saw **125 €** for hunted wild boar disposed of in the rendering plant.



Timeline of hunting regulations

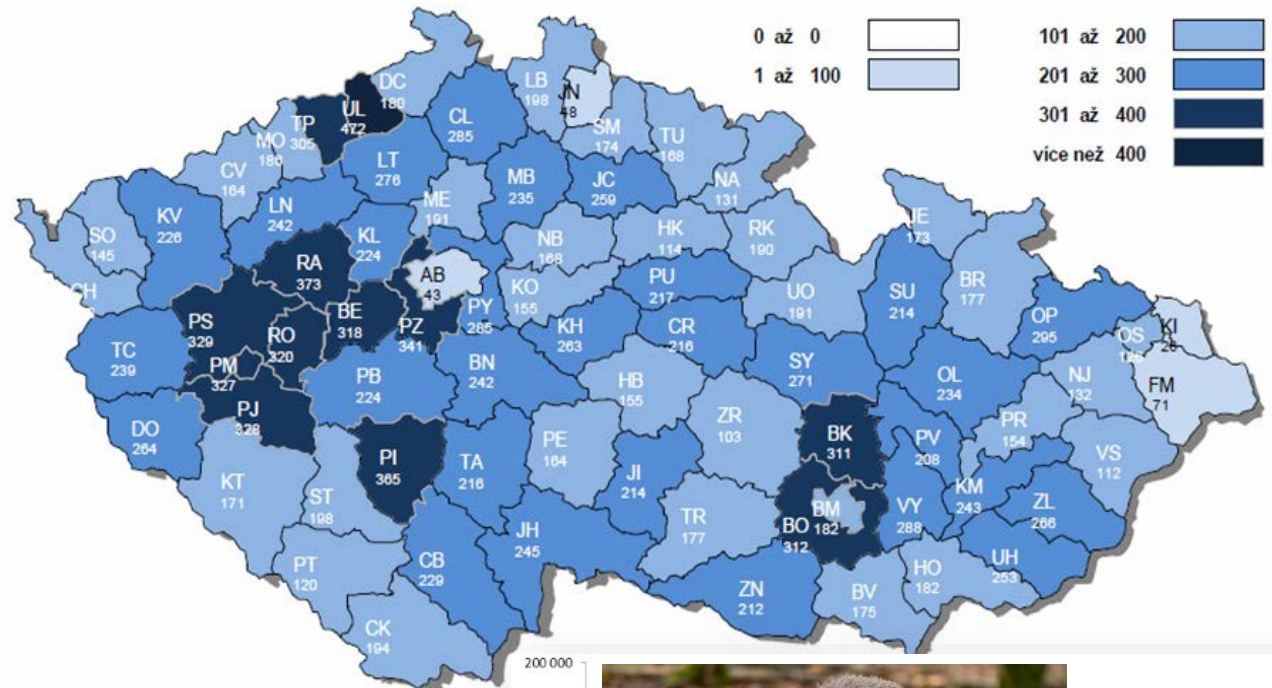


Alternative measures



The density of wild boar population in the Czech Republic (per 100 km²)

Hunting year	Hunting bag
2010	144 305
2011	109 563
2012	185 381
2013	152 468
2014	169 483
2015	186 148
2016	160 164
2017	225 000



- hunted animals: 1-4 / km²
 - real WB density?? = 1,5-2x higher
 - the population doubles every 10 years
 - motivated hunting in the whole country
- 10-12/2017 (38 EURO per hunted animal)



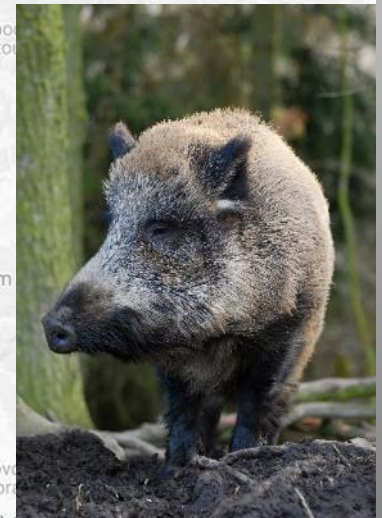
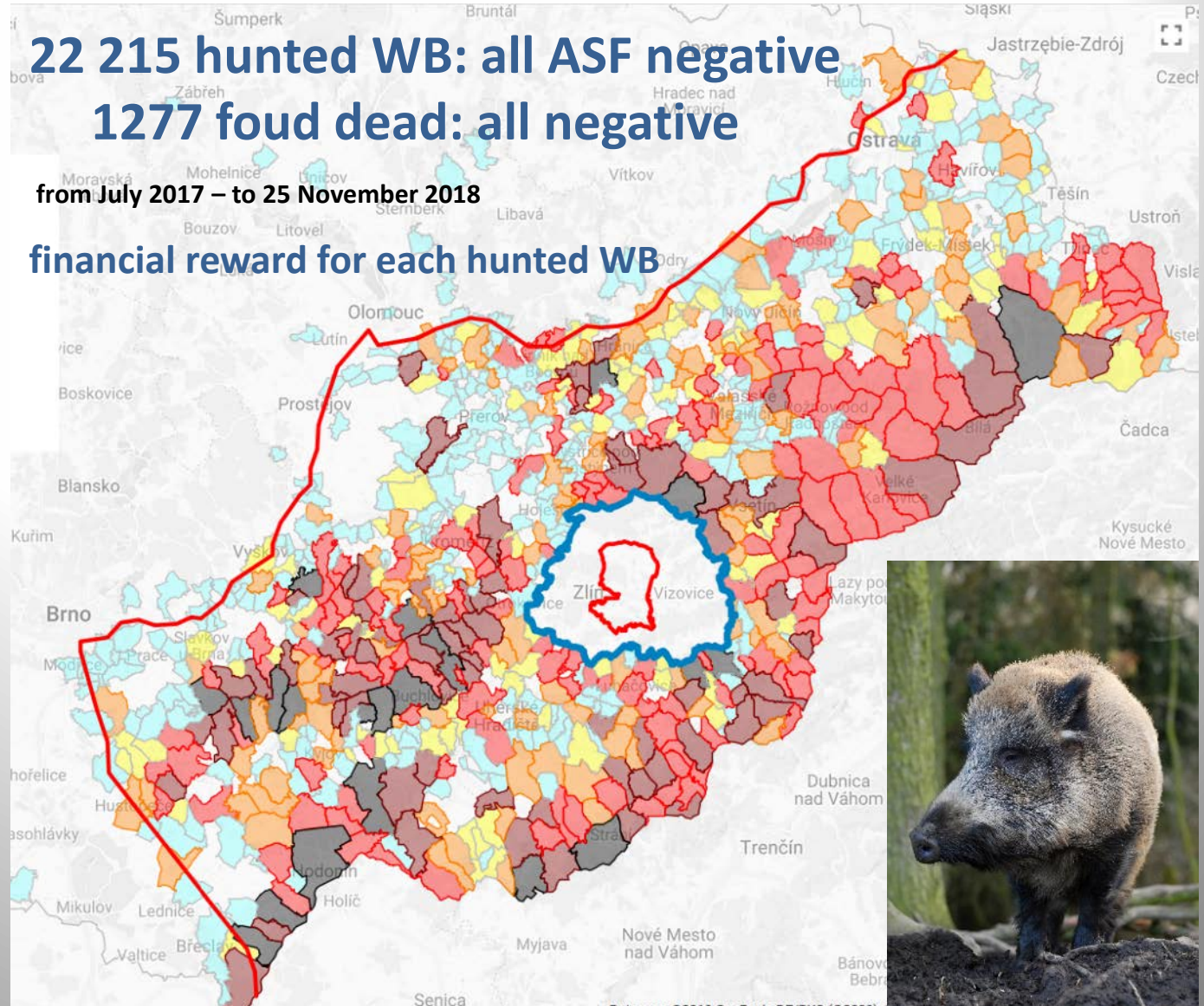
Active and passive surveillance in the in buffering zone with the intensive hunting



22 215 hunted WB: all ASF negative
1277 foud dead: all negative

from July 2017 – to 25 November 2018

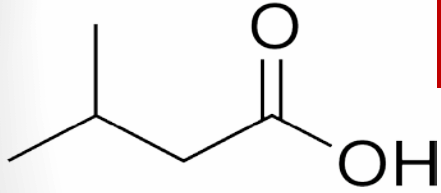
financial reward for each hunted WB



Electric fences around the infected area



Odour fences around the infected area



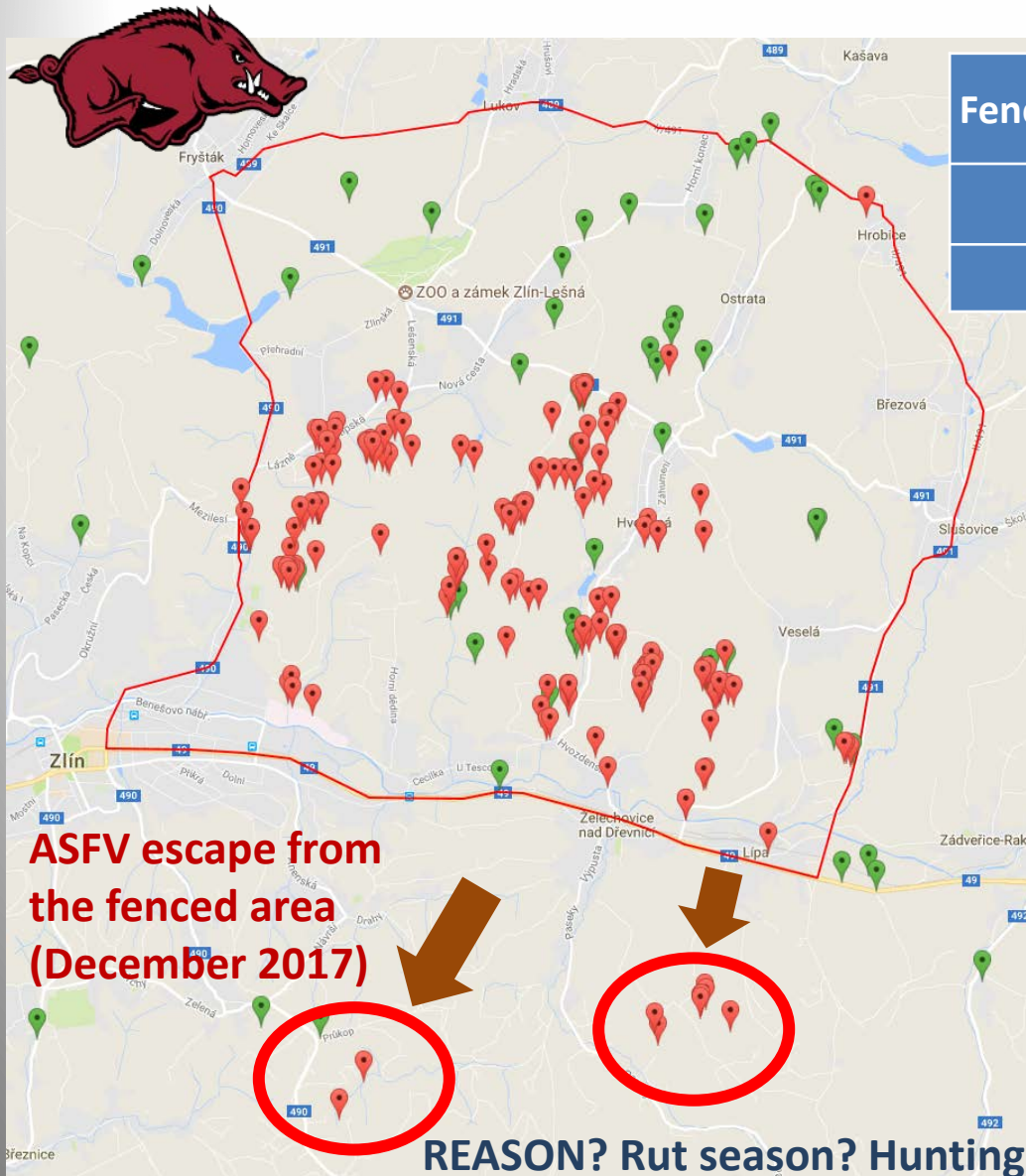
- synthetic foam with **3-Methylbutanoic acid (isovaleric acid)**
- **imitation of typical predators smell / odour**
- **strong pungent cheesy or sweaty smell**
- it is a major component of the cause of unpleasant foot odour
- most durable product chosen – resistant against weather conditions (+ with slow evaporation)
- 5 m distance / 4 weeks period
- product: *Pacholek koncentrát B, Ekoplant, s.r.o.*



Passive surveillance: wild boars found dead

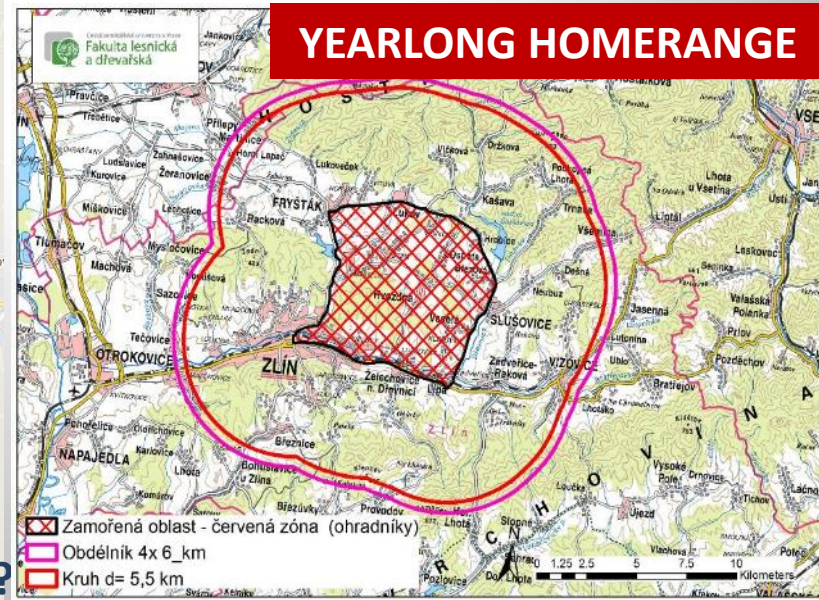
high risk area (fenced area) inside the infected area

21 May 2018



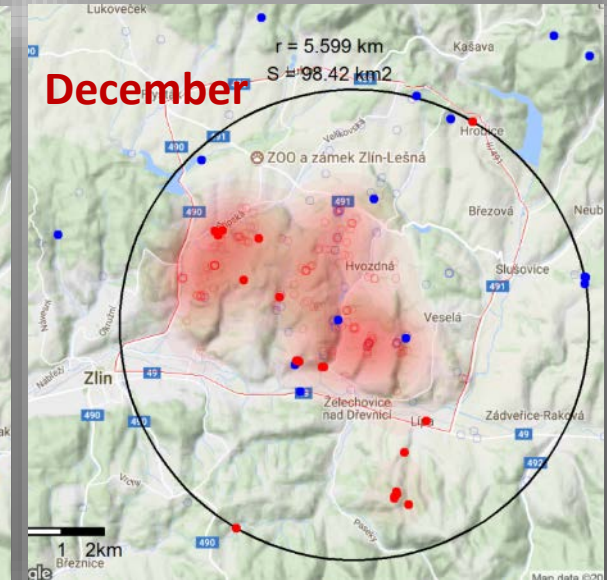
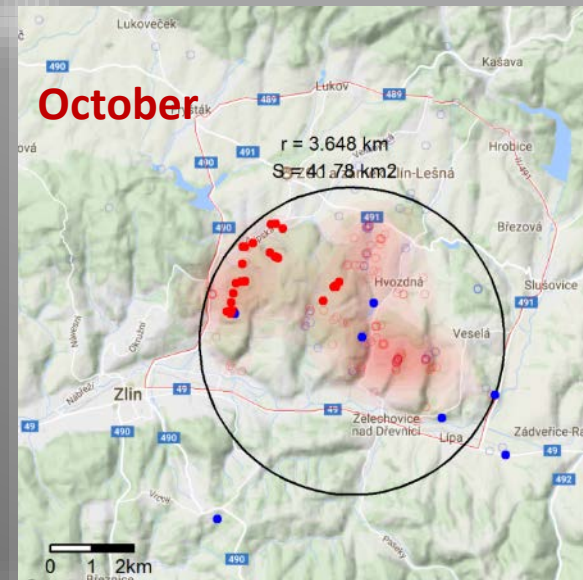
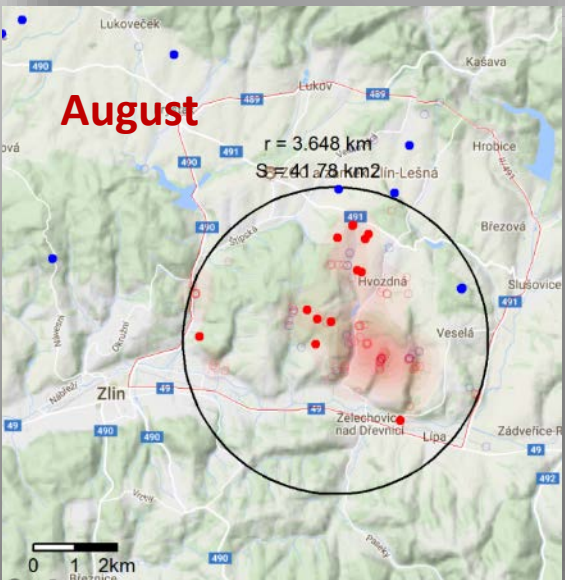
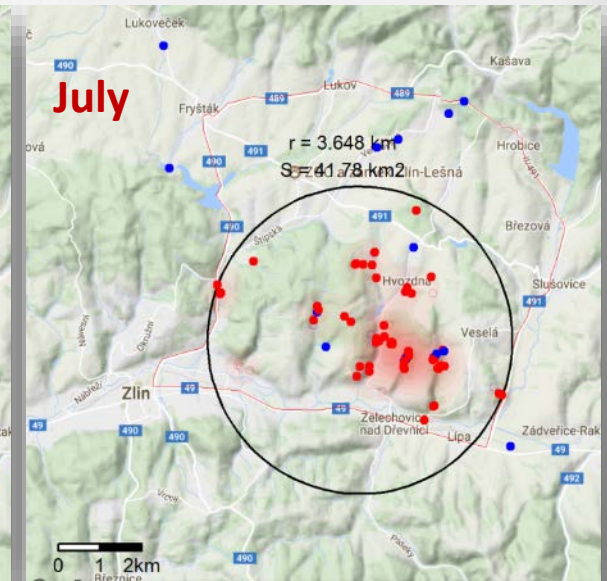
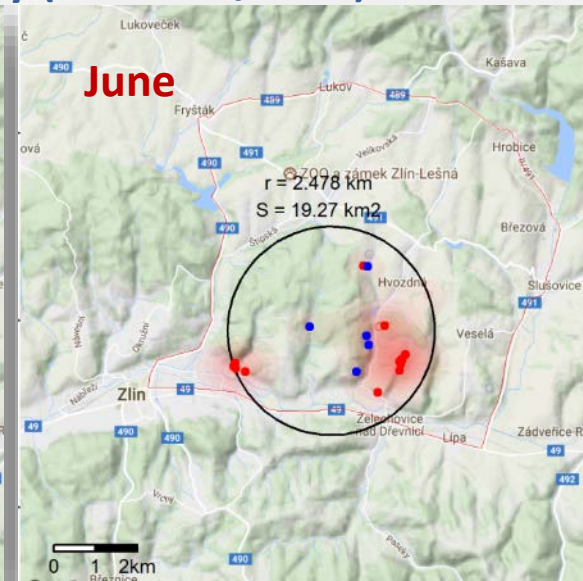
Fenced area	total	negat.	posit. (virus/PCR)	prevalence
in	280	79	201	71,7%
out	134	123	11	-

WB density in the fenced area: more than 520 (found dead+hunted) WB / 57 km² = 9.1 WB per 1 km²



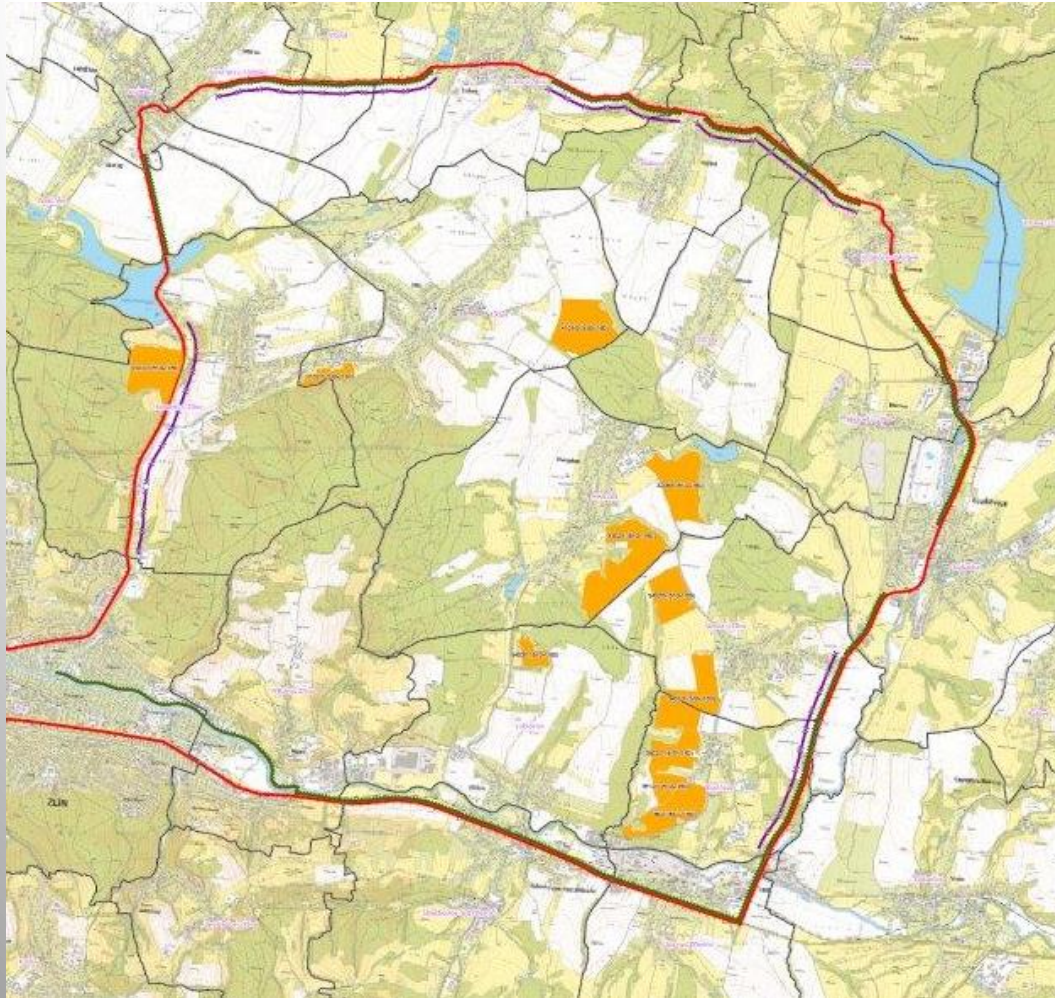
The speed rate of disease expansion

DIAMETER 11 KM / 11 MONTHS = SLOW speed = Ø 0,5 km/ 1 month
despite the high WB density (8-10 WB / km²)



based on the estimated date of death of WB found

Higher risk area (fenced area) - unharvested fields left



115 hectares of unharvested fields (rape, maize and wheat) were left for wild boars providing both food and shelter

Enhanced passive surveillance of WB found dead



Motivated or/and organised searching of carcasses

- very inaccessible terrain
- dense vegetation



Collection and disposal of carcasses

one of the most important steps in ASF control and eradication

Collection of WB carcasses with financial motivation:

	Area	Reward in CZK
Finder reward	Czech Republic	2 000,-
	Area with intensive hunting	3 000,-
	Infected area – higher risk zone	5 000,-



Increased passive surveillance of dead WB – motivated searching for carcasses



Intensive active searching of cadavers

Cadavers of dead wild boars constitute the greatest risk for the spread of ASF in wild boar population. SVA ordered that the users of hunting grounds in the infected area must carry out **an intensive search** for wild boar cadavers from **22. 03. 2018 to 22. 04. 2018**.

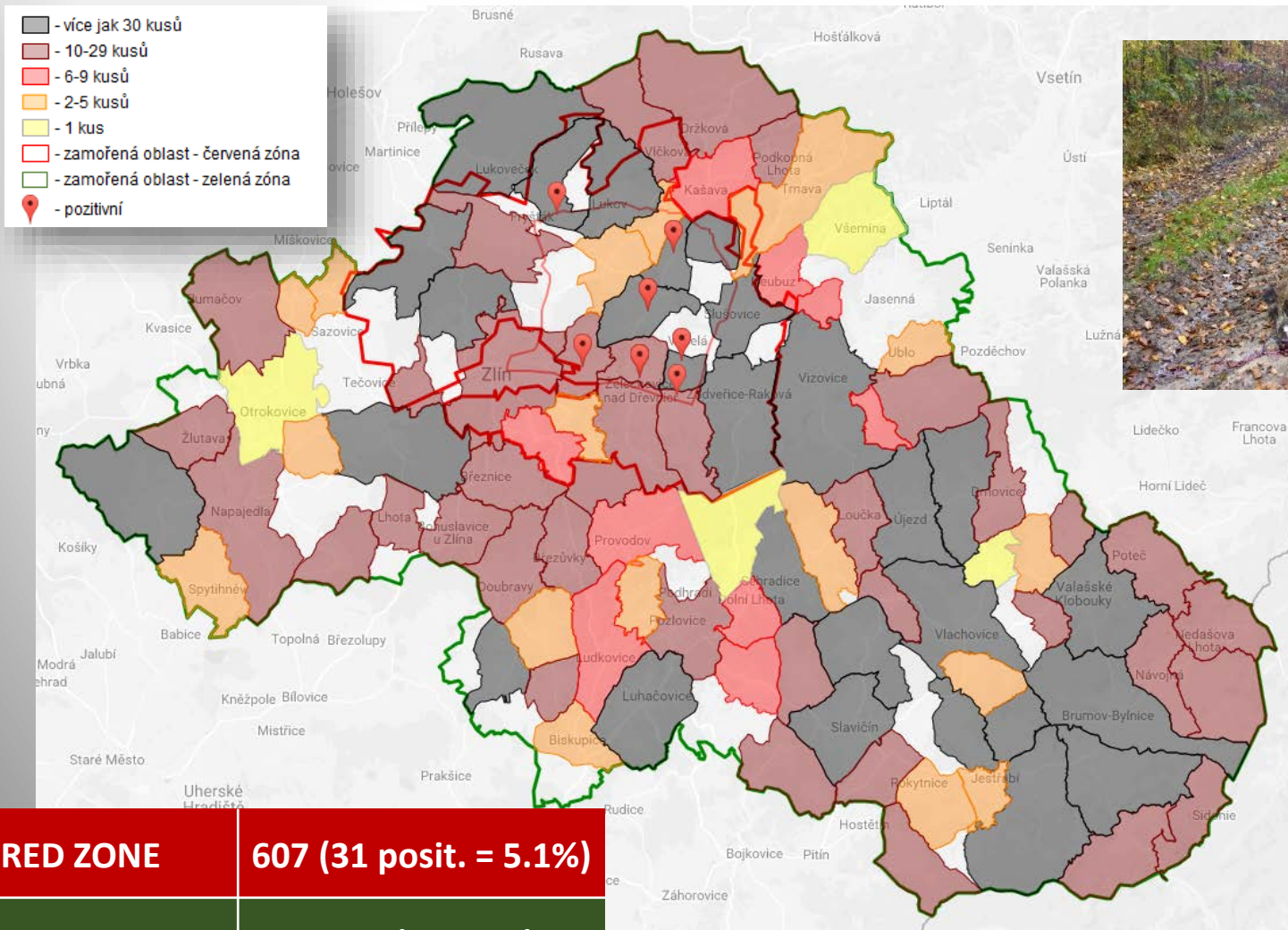
56 cadavers were found during this action, **10** of them were ASF positive. However, these **cadavers were 3-6 months old**. So the **infections and subsequent death of these wild boars occurred at the end of 2017 or early 2018**.

Samples with positive results were sent to European Reference Laboratory for ASF, Madrid, Spain. Virological laboratory - **no live virus present in the samples**.



Active surveillance in the infected area

- individual hunting by local trained hunters allowed in the end of epidemic phase
- more than 1300 hunters trained by SVA (driven hunts still forbidden)



2 318 hunted WB tested

26 January 2018

Hunting by police snipers in the infected area

task: as fast as possible total depopulation inside the fenced area - quickly, silently, efficiently and with high biosecurity

- individual hunting by Police snipers (Elite Squad, Police Special Unit, Airport snipers)
- started from **16 October 2017** (3 days a week during 10 weeks)
- in total **157 WB hunted - 8 positive for ASF**
- snipers trained for hunting **biosecurity**
- organization and coordination by RVA and by regional hunters

- over night hunting (18:00 – 6:00)
- **mobile thermovision** used
- snipers with **silencers**

ALL hunted WB collected and rendered !!!



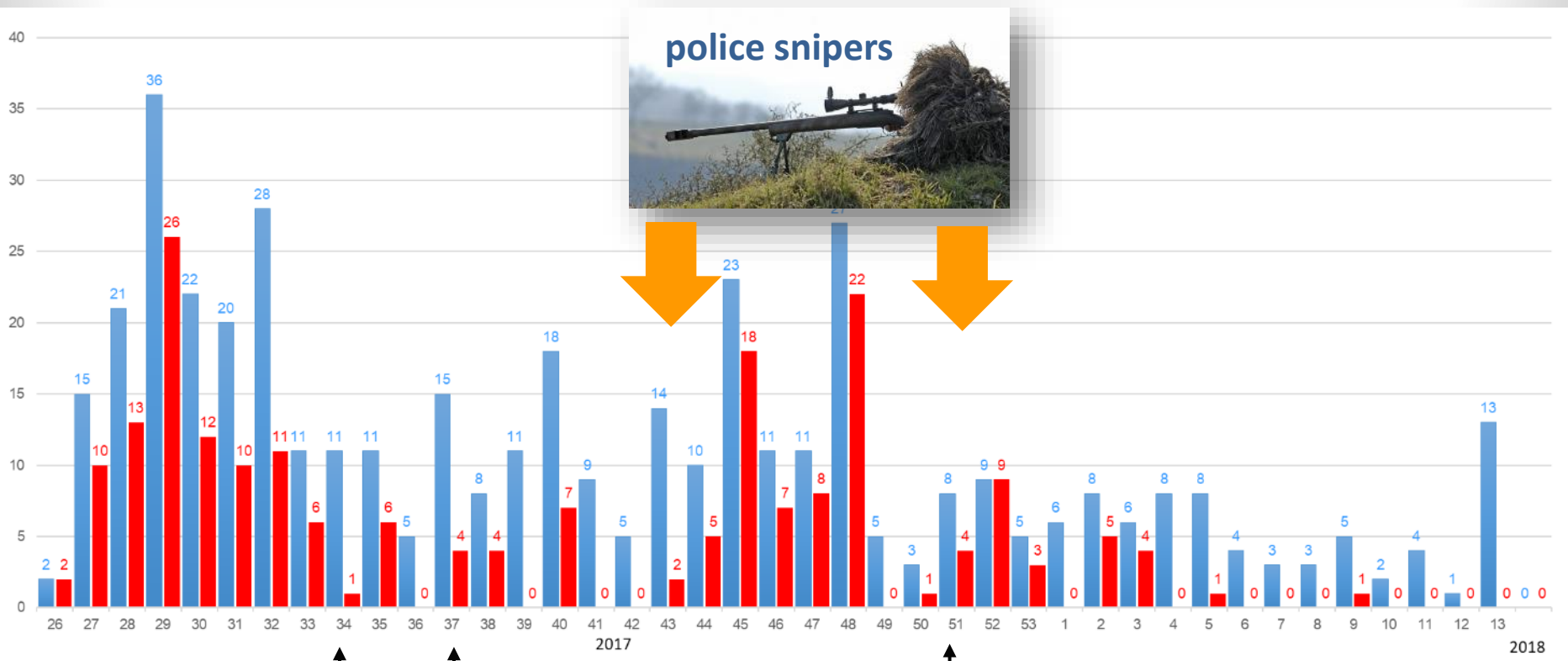
Collection of hunted WB during hunting by POLICE



Weekly incidence in relation to hunting measures

■ number of WB found dead (441) – part I. and II.

■ number of ASF PCR positive found dead WB - **204** (8 April 2018)



↑ week 34:
hunting by
trapping

↑ week 37:
individual hunting
by
trained hunters

← hunting by Police snipers week 42-52/2017 and week 4-5/2018 →

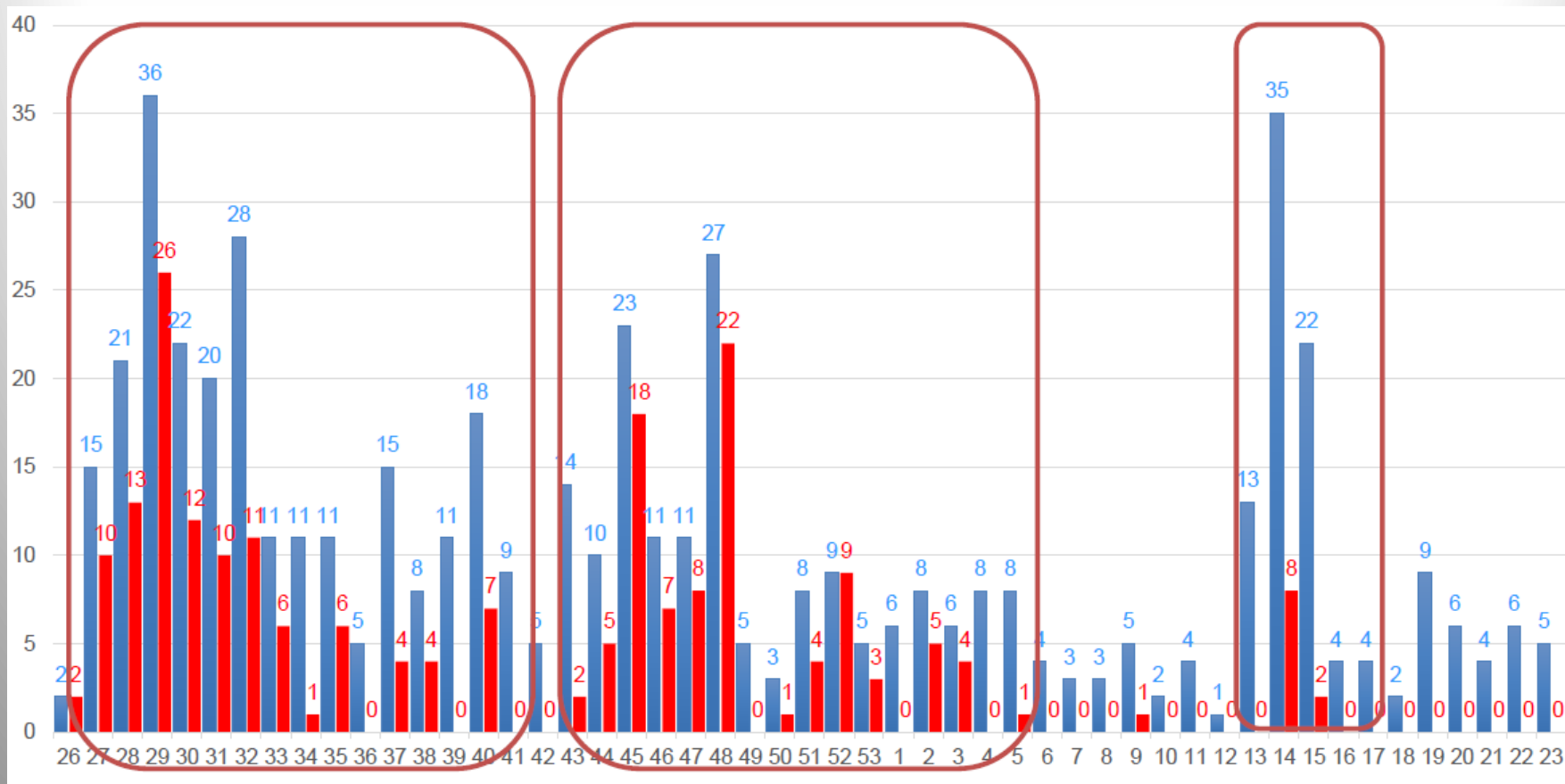
↑ week 51: first positive WB cases outside fenced area

Weekly incidence: 3 peaks in the Czech Republic

EPIDEMIC

SNIPERS

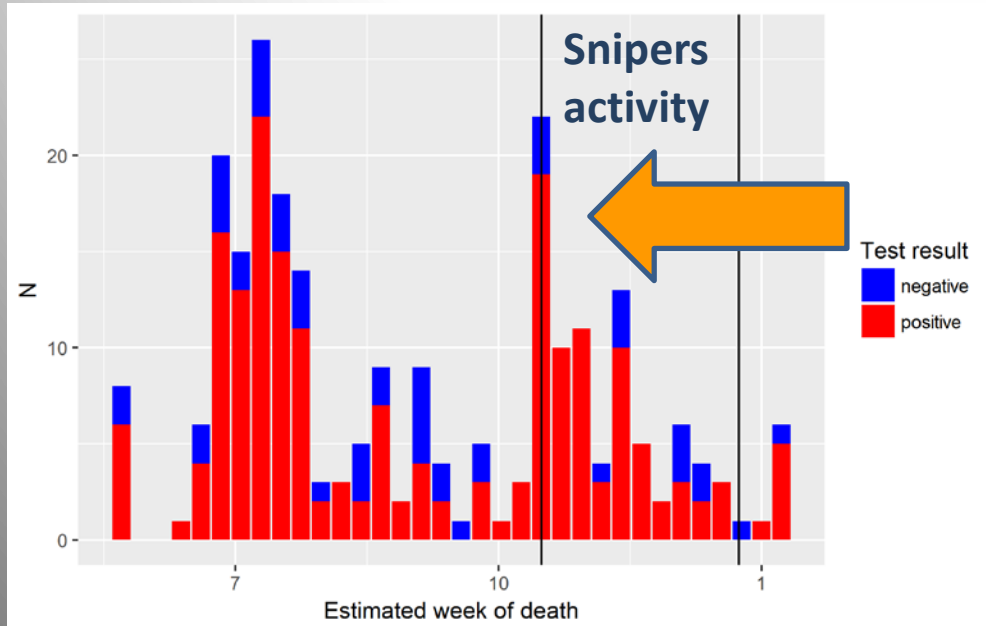
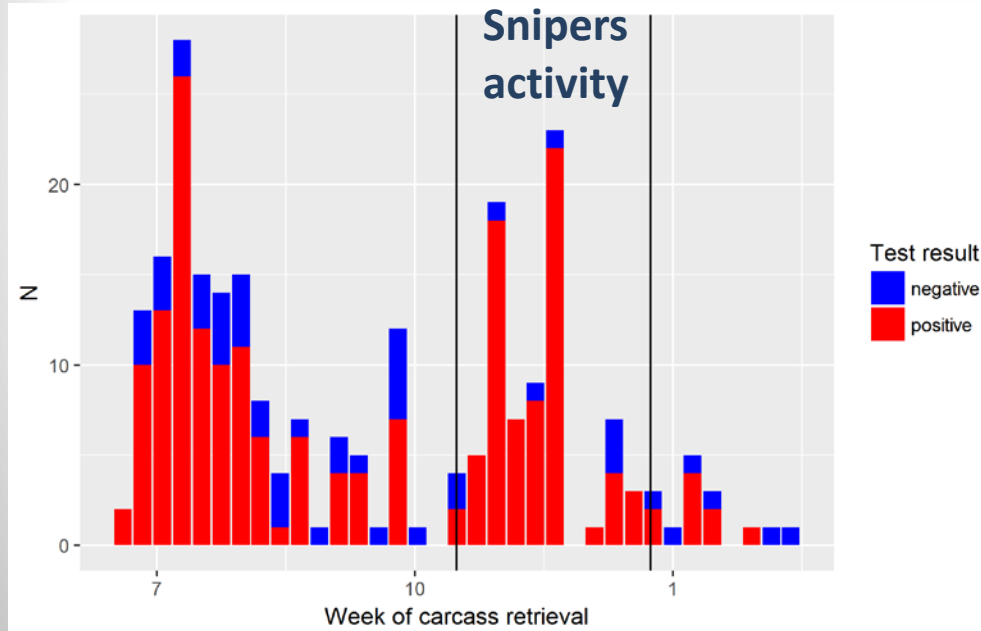
MOTIVATED and ORGANISED SEARCHING OF CARCASSES



2017

2018

Carcasses „age“ – date of finding vs. date of death (estimated)

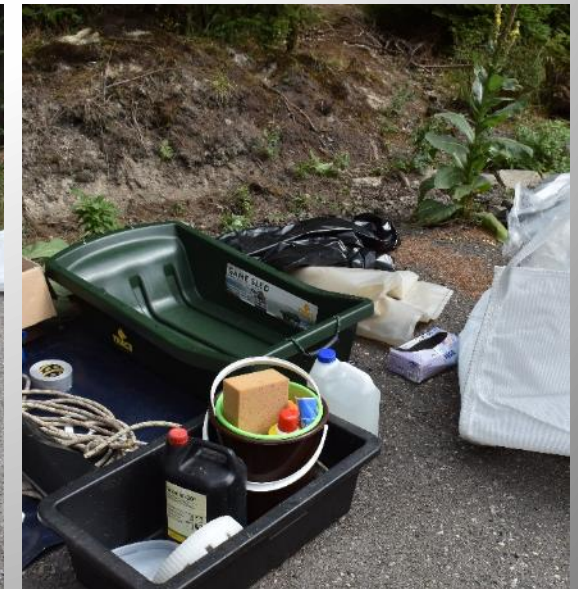


Disposal of hunted wild boars from the infected area to determined rendering plant



Samples taken in rendering plant by official veterinarians

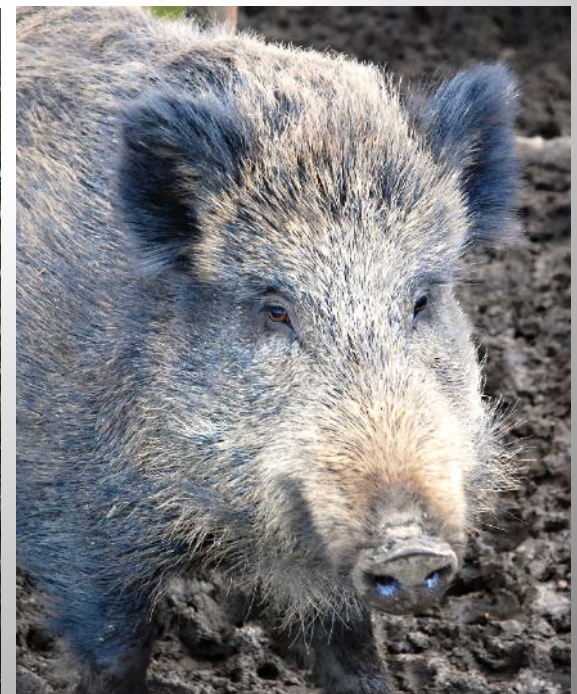
Collection and disposal of hunted wild boars



Trapping of wild boars

- 32 traps in the area
- cage traps with sensors and cameras
- subsidies for traps = **315 € - 730 €**

Fenced area	total trapped	negat.	posit.	prevalence
in	40	36	4	10%
out	66	66	0	-





State
Veterinary
Administration

Thank you

