



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?



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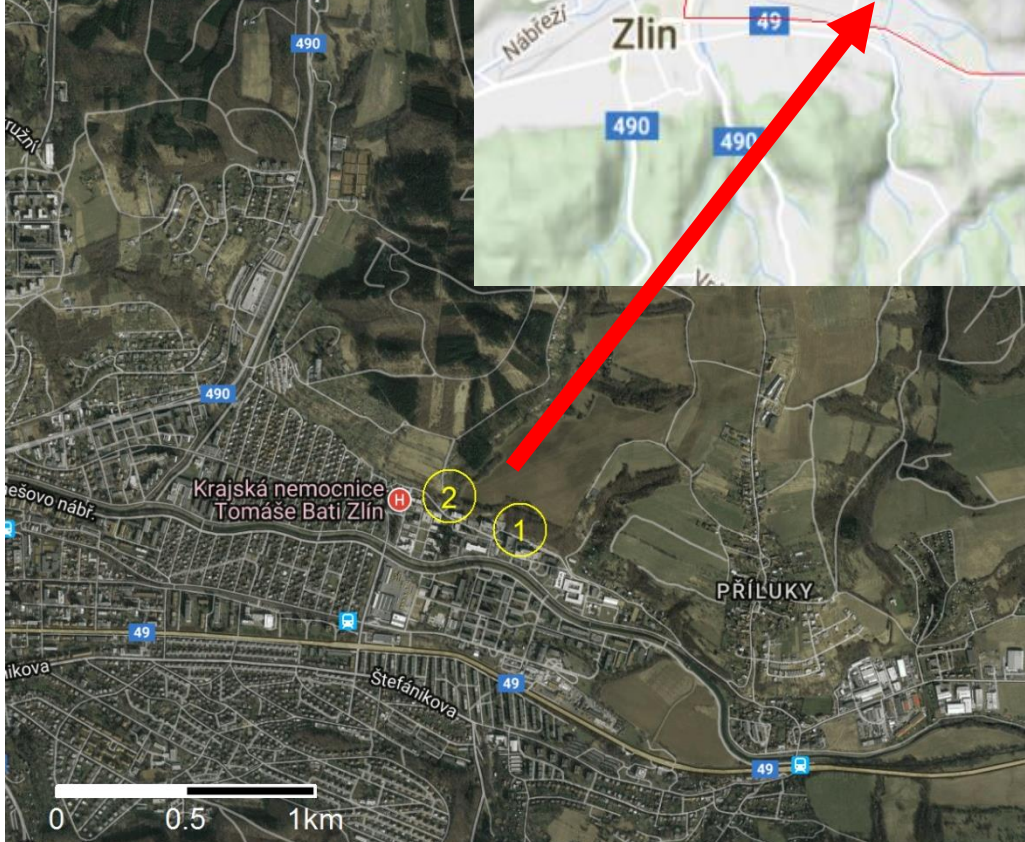
# First ASF case in the Czech Republic

- Zlín city - inhabited area
- 1<sup>st</sup> WB carcasses found nearby the local hospital



# First ASF case in the Czech Republic

The real source of infection?

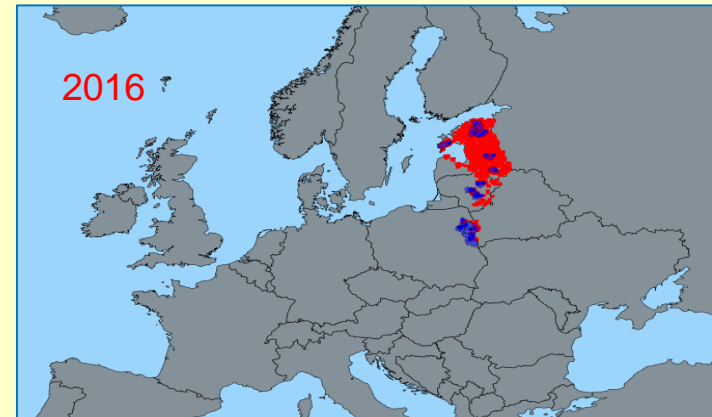
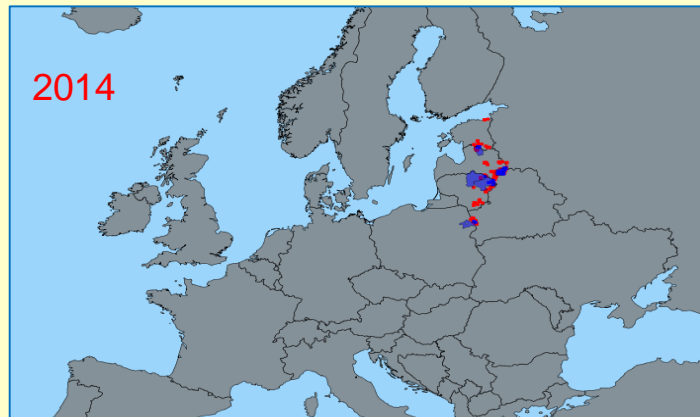




## ASF - before the first case in the Czech Republic

### 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

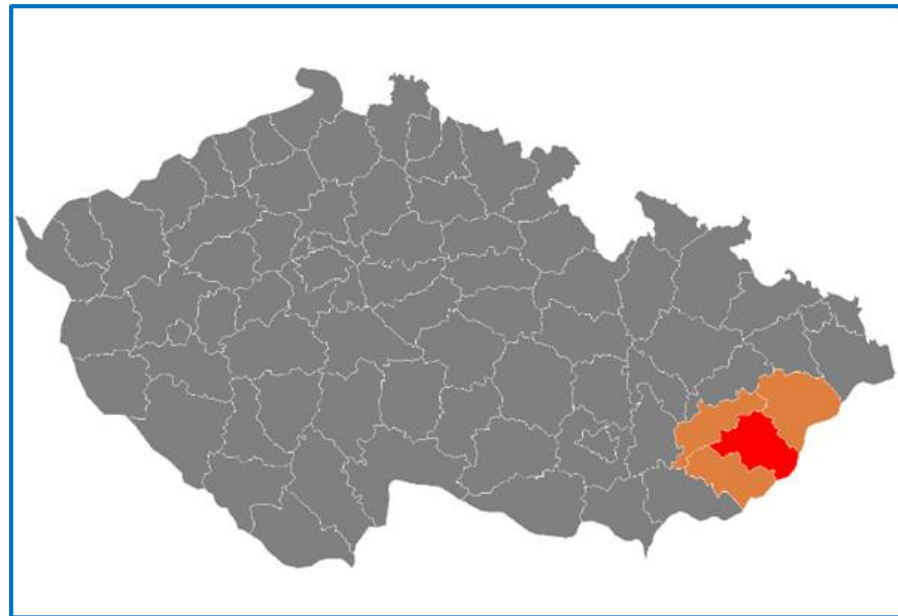
- The total number of positive cases in found dead wild boar: **212** (last positive cases **15. 4. 2018**)
- The total number of positive cases in hunted wild boar: **18** (last positive cases **8. 2. 2018**)

**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**

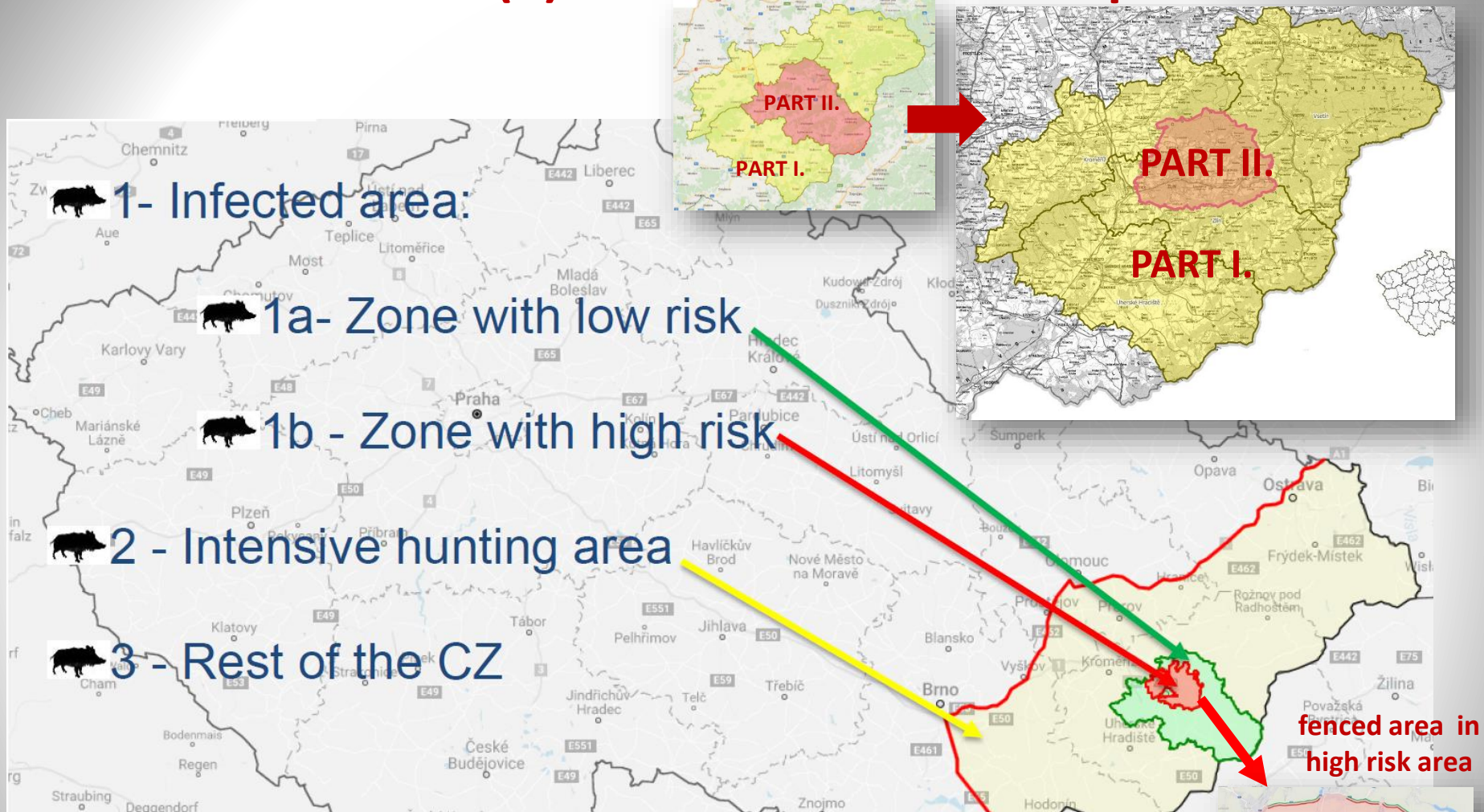


# Measures applied





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



- ✓ Intensive hunting area: 8500 km<sup>2</sup> (District Zlín excluded)
  - ✓ District Zlín: 1033 km<sup>2</sup>
  - ✓ Infected area with low risk:  $1033 - 159 = 874$  km<sup>2</sup>
  - ✓ Infected area with high risk: 159 km<sup>2</sup>
  - ✓ Infected area with the highest risk (inside the fences): 57 km<sup>2</sup>

# 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)

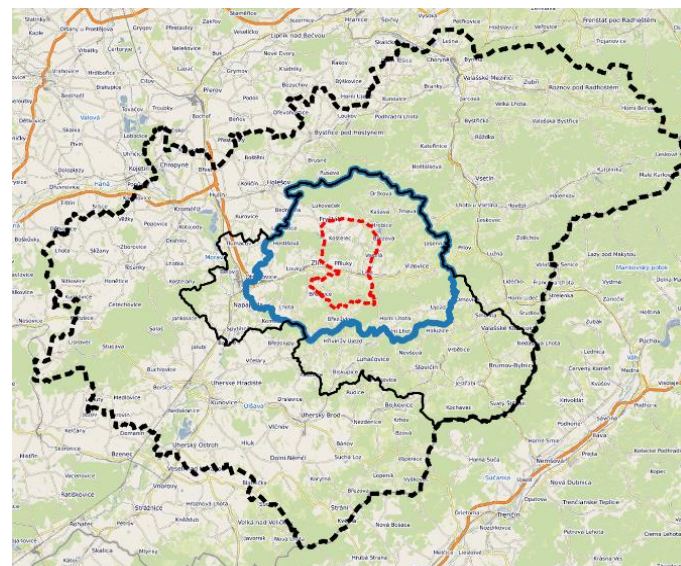
- found dead 154 / **0 positive**
- hunted 11 563 / **0 positive**

### 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 / <b>0</b>	109 / <b>0</b>	723 / <b>0</b>	1212 / <b>0</b>

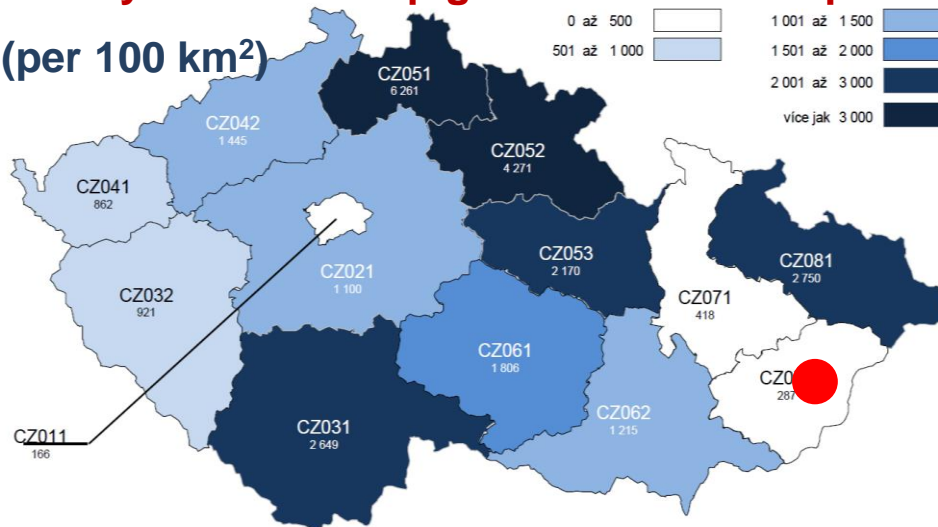
# ASF measures for domestic pigs in Part II

## 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 bending
- 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 km<sup>2</sup>)



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

# 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 €.

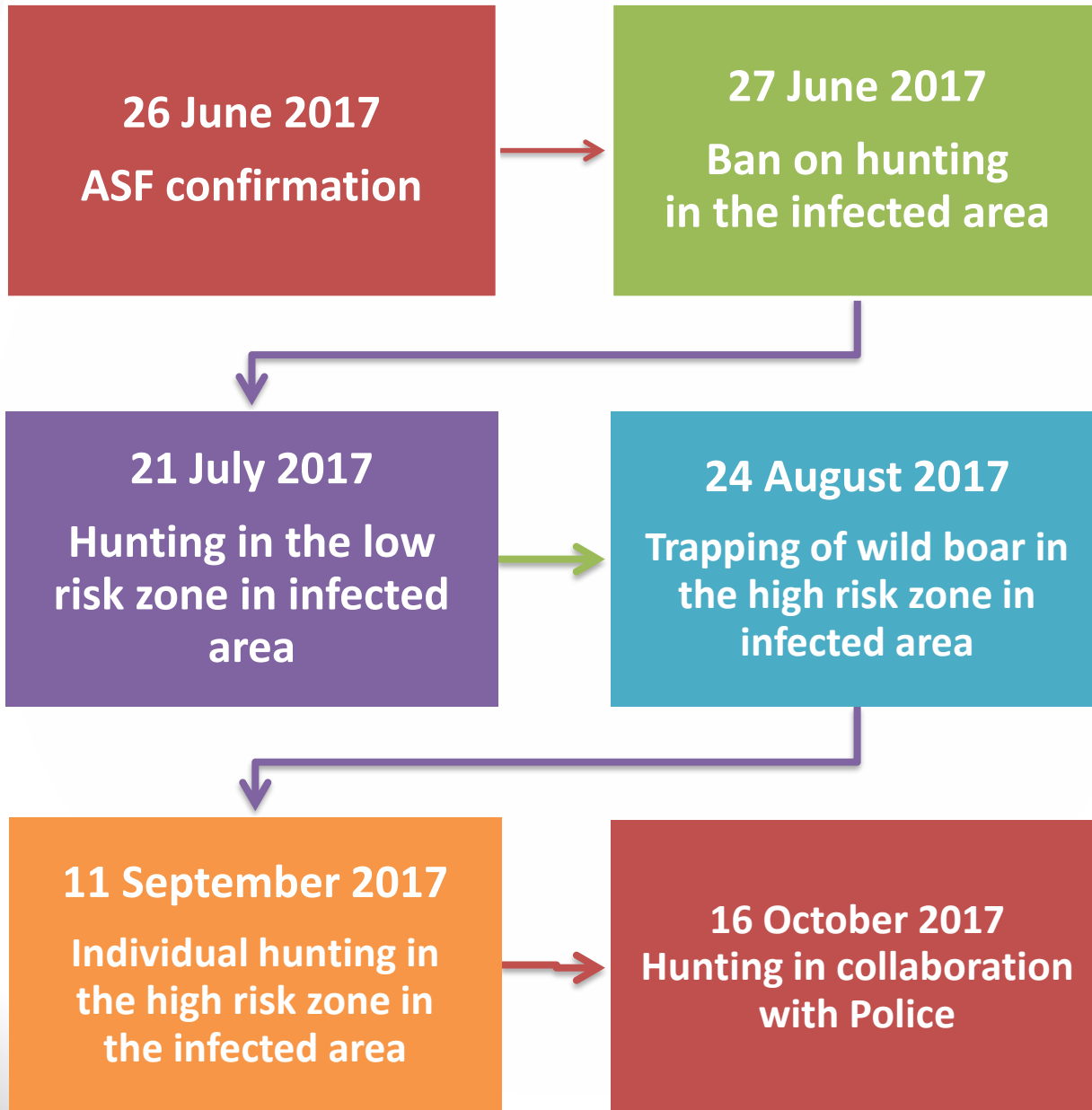
each **hunted young wild boar (up to 50 kg)** - 155 €.

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

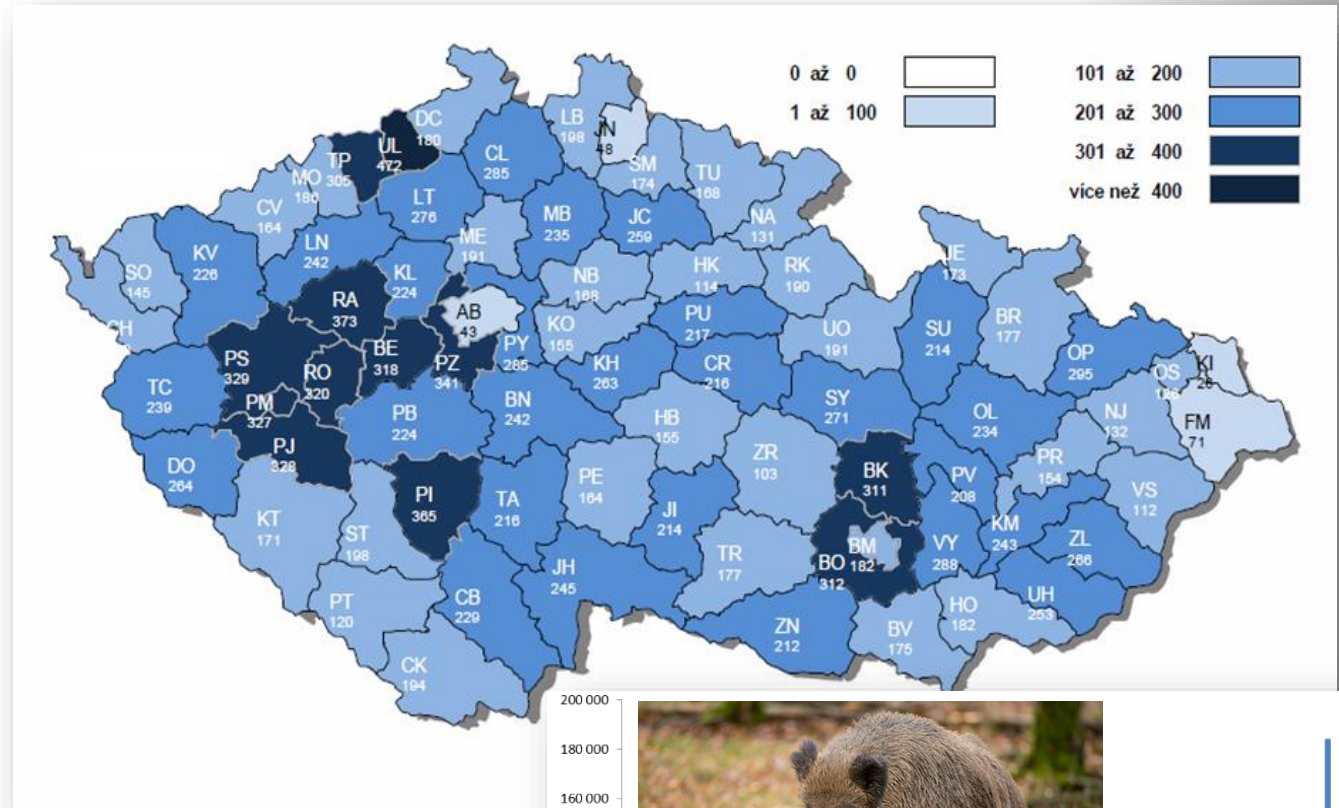


# Alternative measures



# The density of wild boar population in the Czech Republic (per 100 km<sup>2</sup>)

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 / km<sup>2</sup>
  - 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

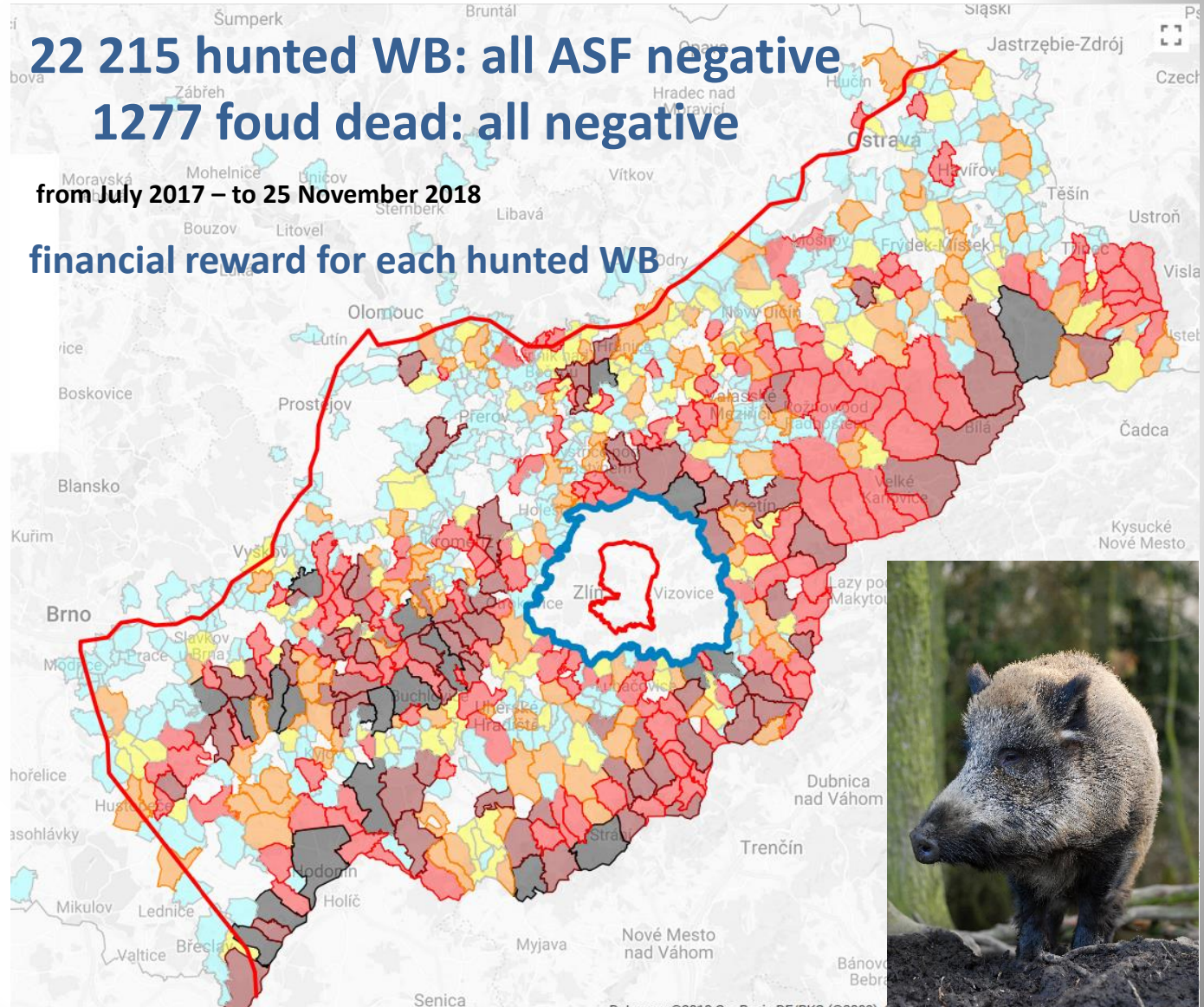


**22 215 hunted WB: all ASF negative**

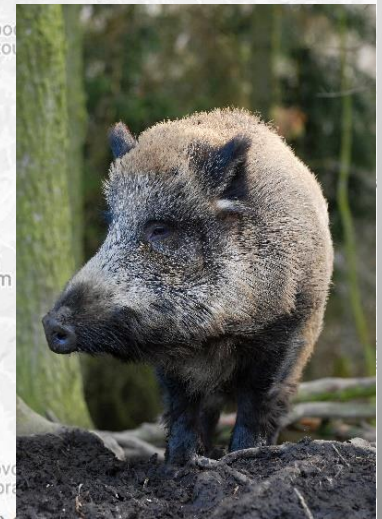
**1277 found dead: all negative**

**from July 2017 – to 25 November 2018**

**financial reward for each hunted WB**



- > 100 WB
- 50-90 WB
- 20-49 WB
- 10-19 WB
- 5-9 WB
- 1-4 WB
- high-risk area
- infected area
- highway

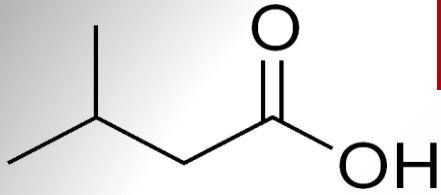




# Electric fences around the infected area



## Odour fences around the infected area



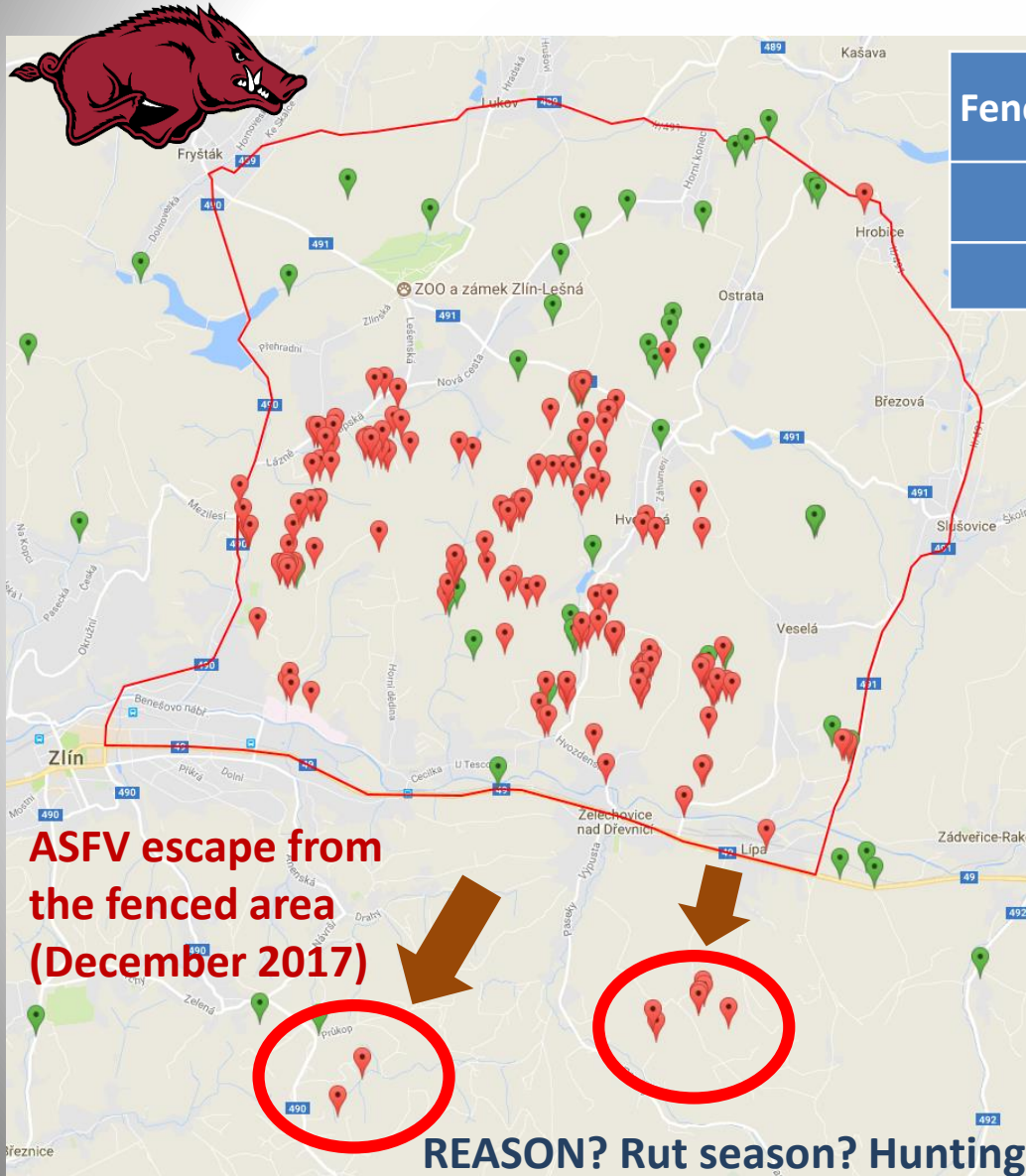
- synthetic foam with **3-Methylbutanoic acid (isovaleric acid)**
- **imitation of typical predators smell / odour**
- **strong pungent cheesy or sweaty smell**
- it is a major component of the cause of unpleasant foot odour
- most durable product chosen – resistant against weather conditions (+ with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



# Passive surveillance: wild boars found dead

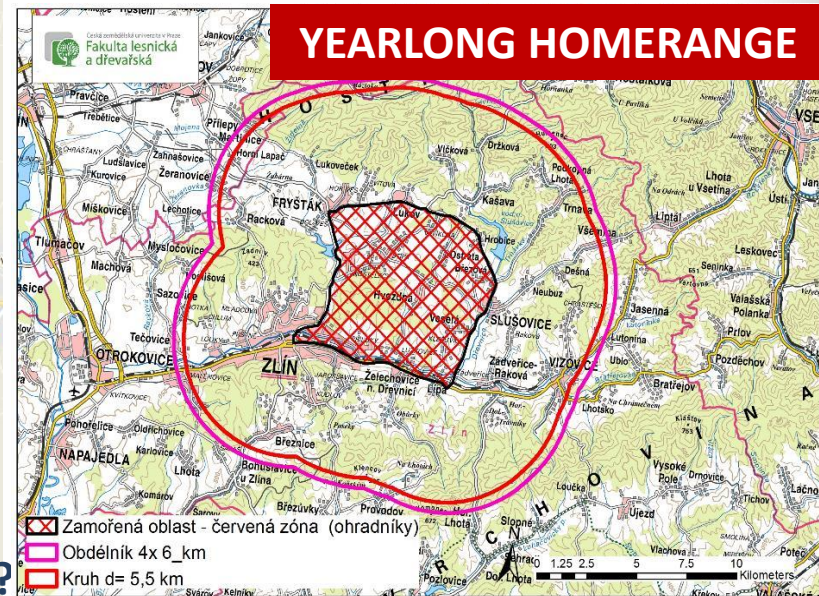
## high risk area (fenced area) inside the infected area

21 May 2018



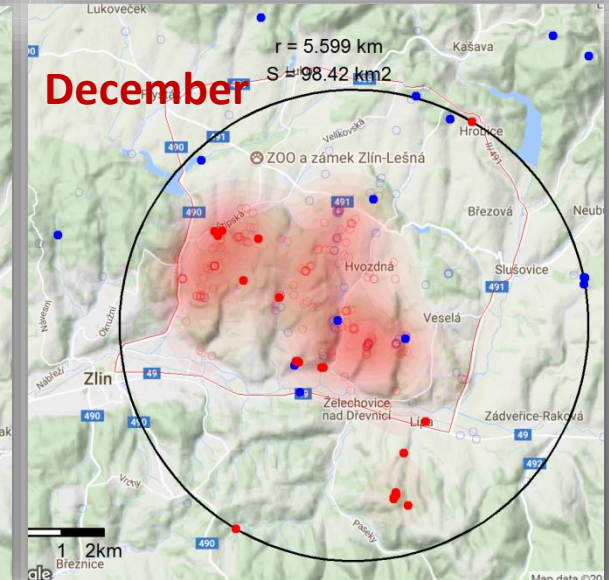
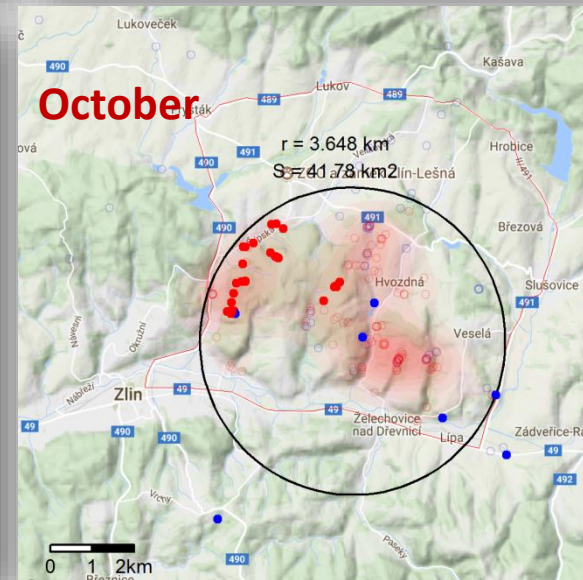
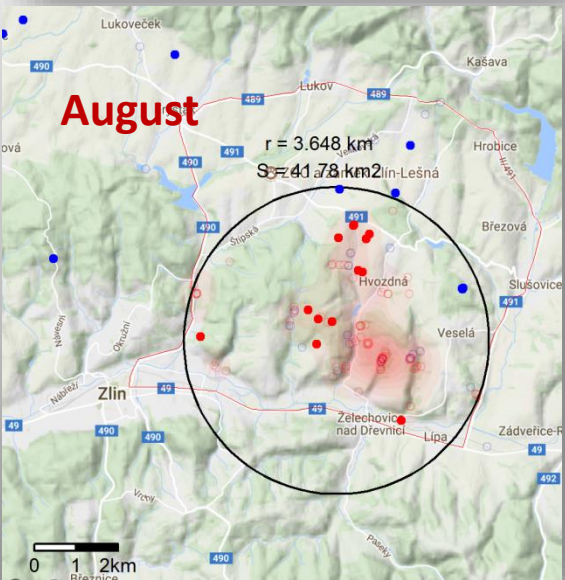
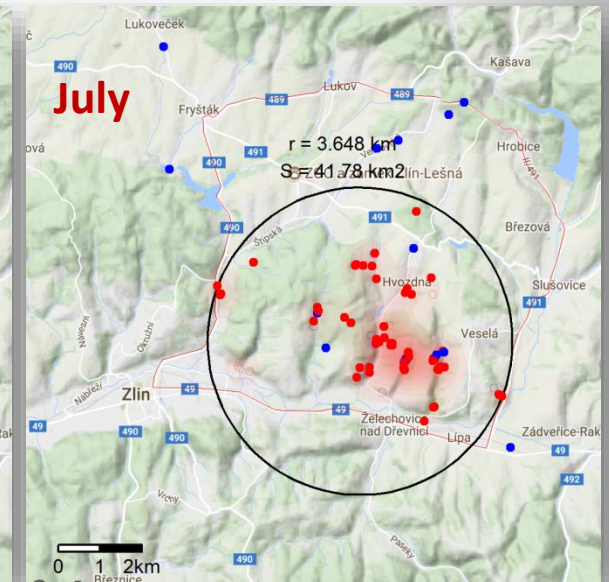
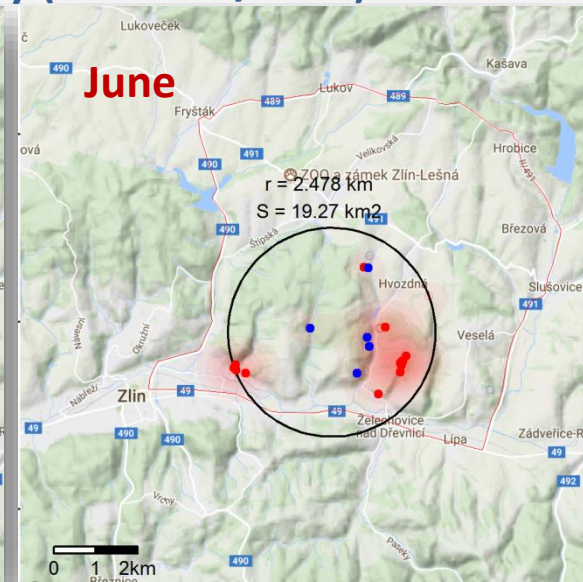
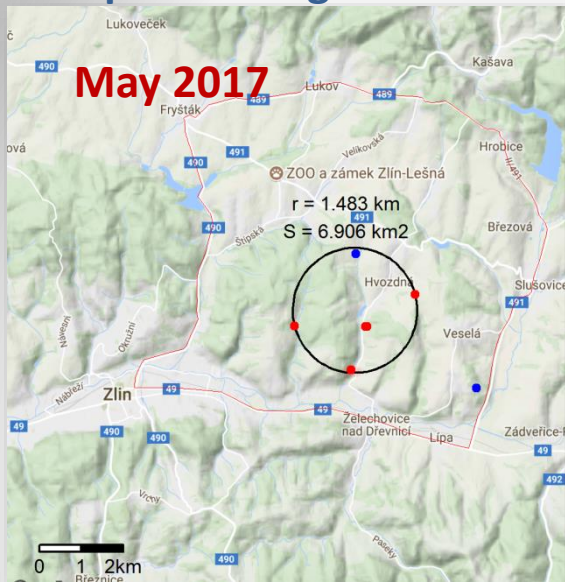
Fenced area	total	negat.	posit. (virus/PCR)	prevalence
in	280	79	201	71,7%
out	134	123	11	-

WB density in the fenced area:  
more than 520 (found dead+hunted)  
WB / 57 km<sup>2</sup> = 9.1 WB per 1 km<sup>2</sup>



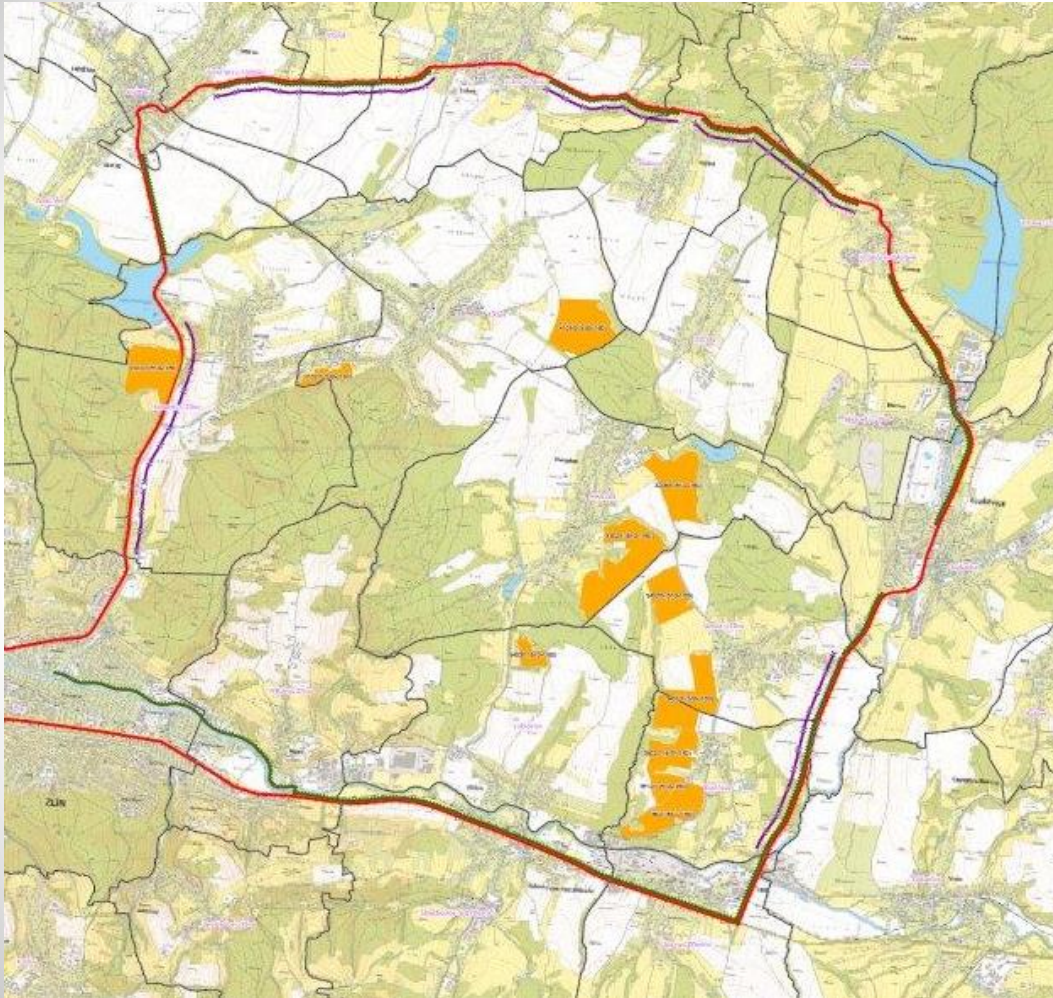
# The speed rate of disease expansion

**DIAMETER 11 KM / 11 MONTHS = SLOW speed = Ø 0,5 km/ 1 month**  
despite the high WB density (8-10 WB / km<sup>2</sup>)



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**.





# 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 !!!**



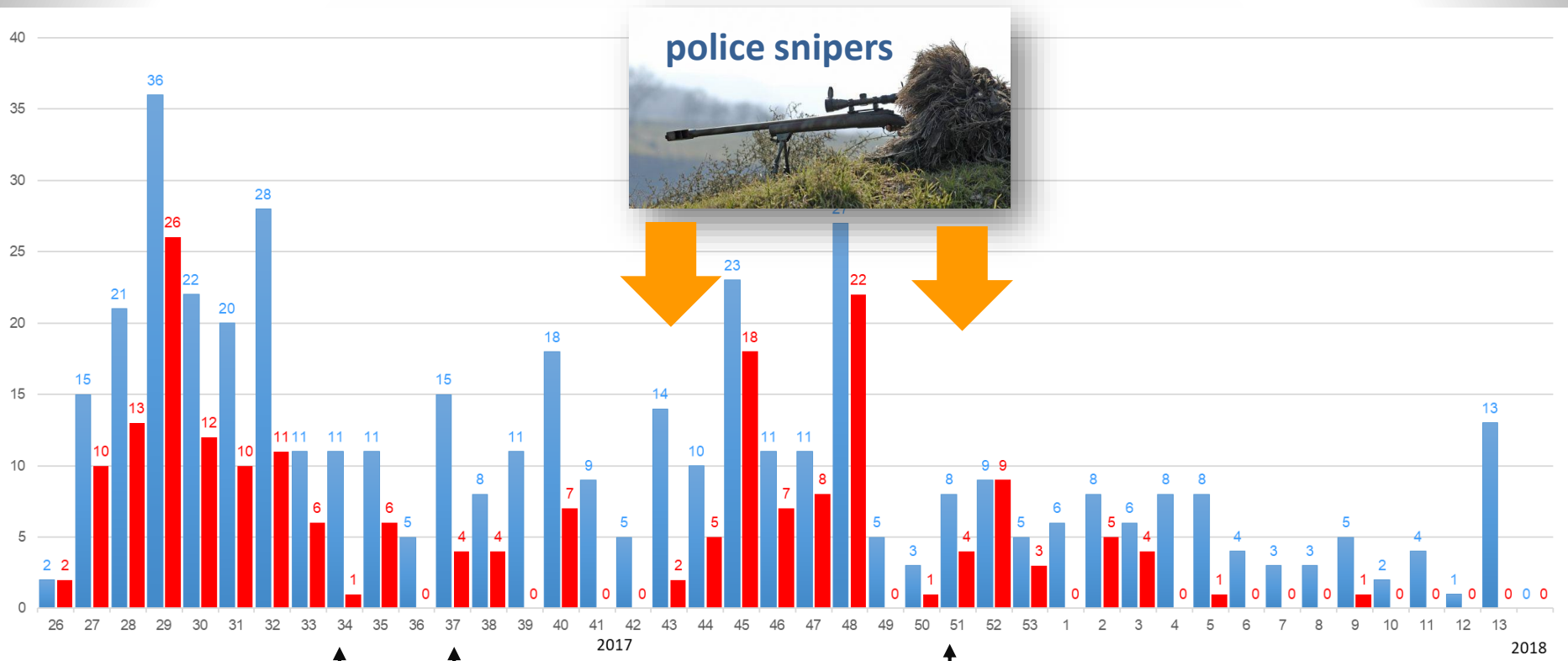
# Collection of hunted WB during hunting by POLICE



# 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

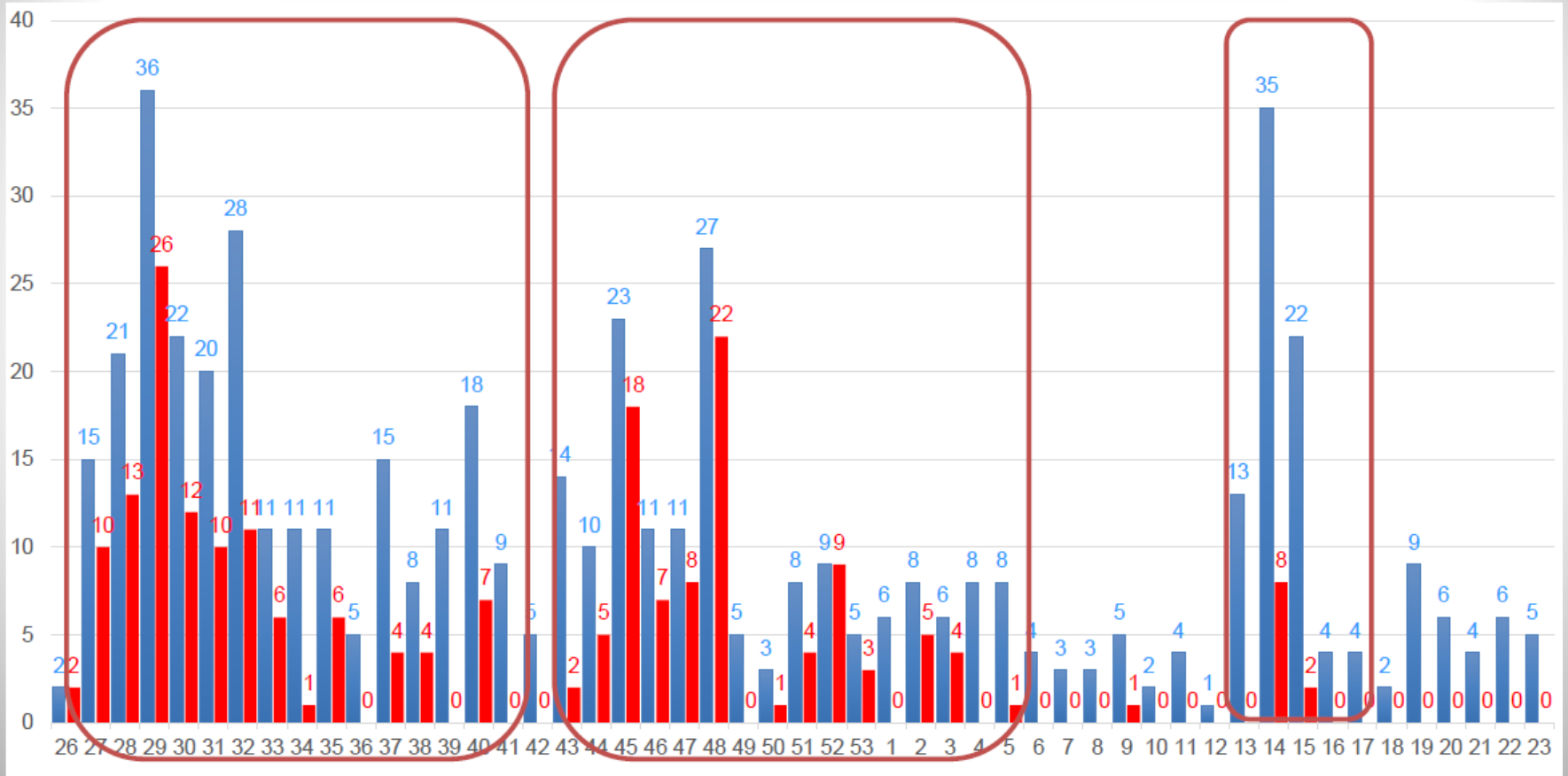
↑  
week 51: first positive WB cases outside fenced area

# Weekly incidence: 3 peaks in the Czech Republic

MOTIVATED and ORGANISED SEARCHING OF CARCASSES

EPIDEMIC

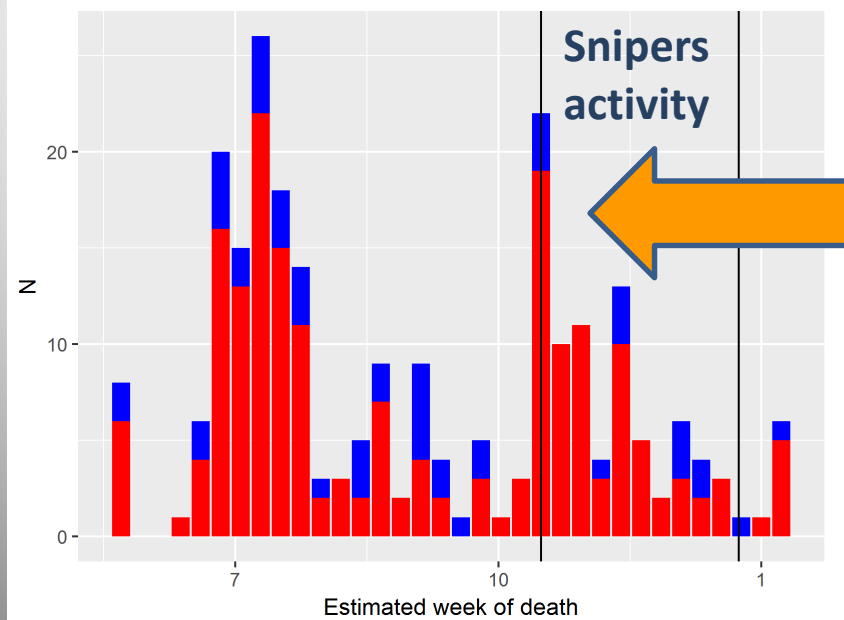
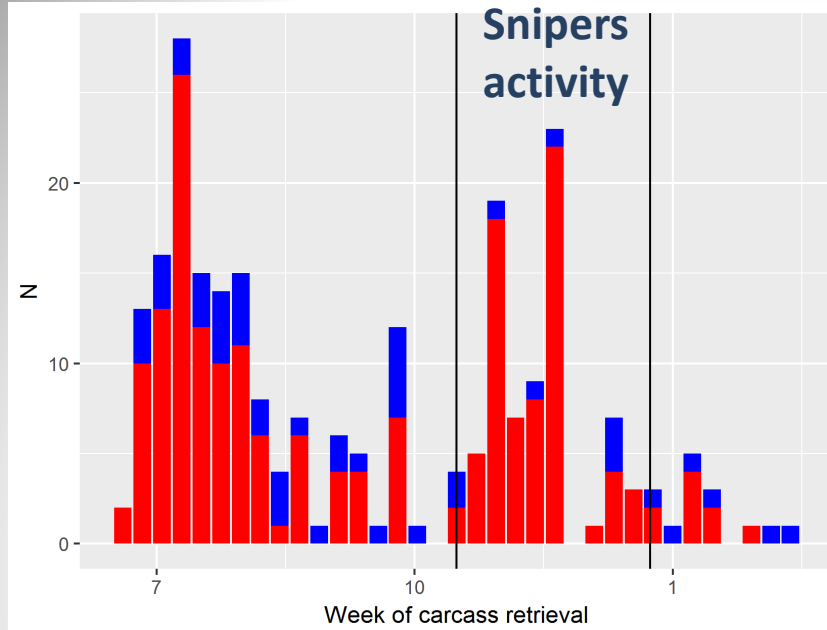
SNIPERS



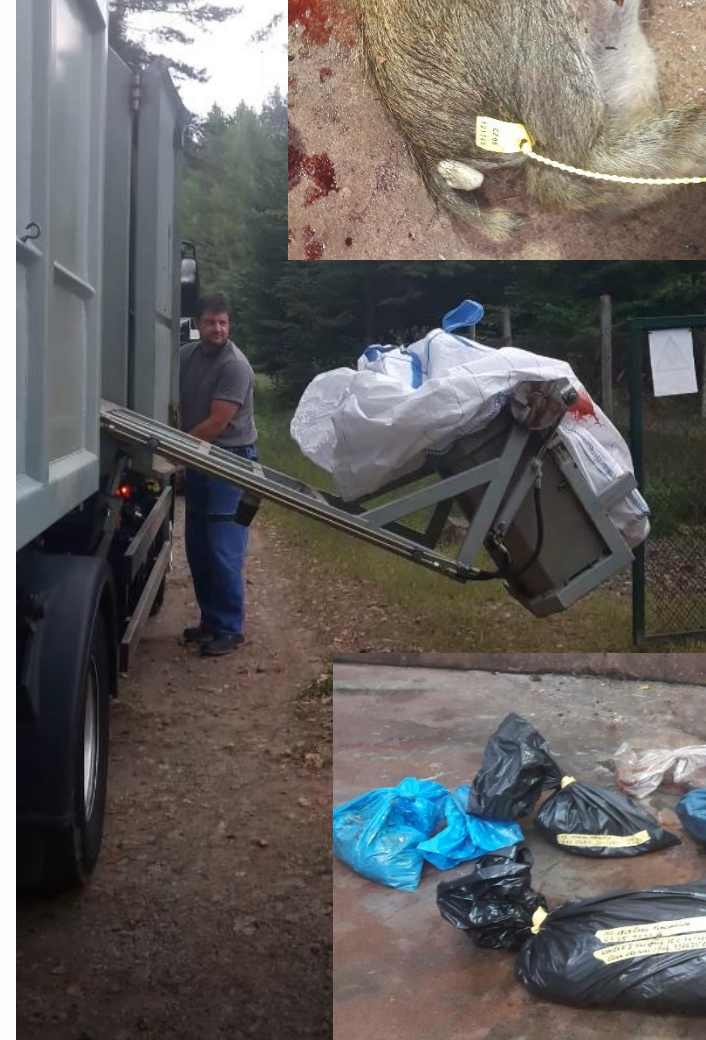
2017

2018

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



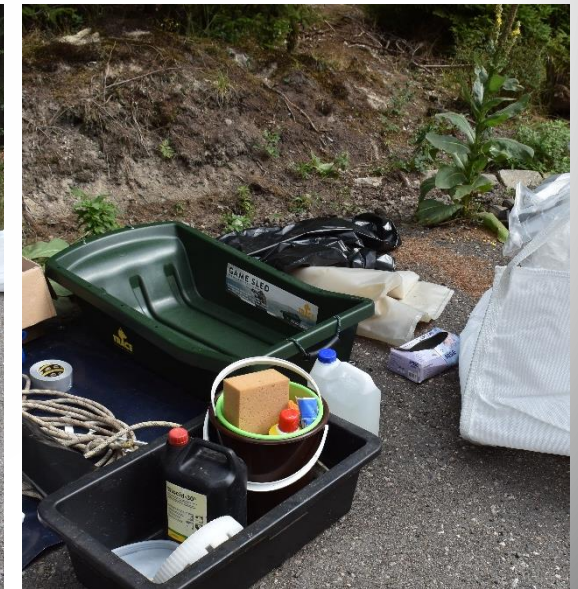
# Disposal of hunted wild boars from the infected area to determined rendering plant



Samples taken in rendering plant by official veterinarians



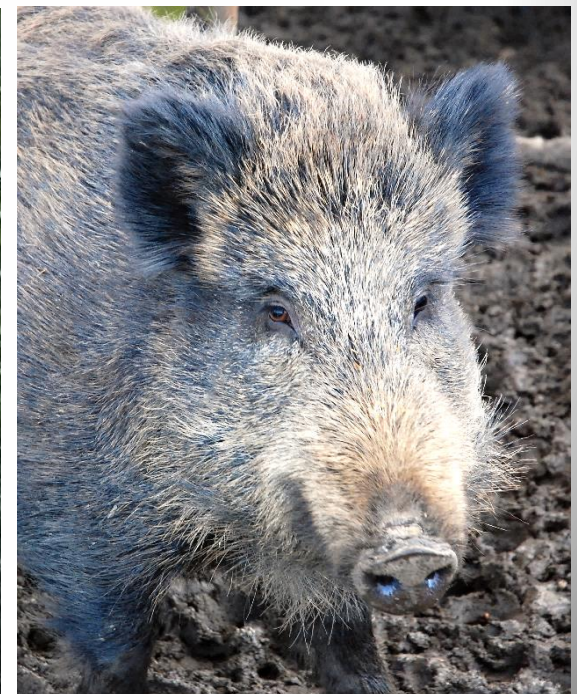
# Collection and disposal of hunted wild boars



# 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	-





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# Thank you

