

# Better Training for Safer Food *Initiative*

## When ASF goes wild Surveillance and control measures in wild boar



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**Zagreb, 12<sup>th</sup> – 14<sup>th</sup> November 2019**

## Issues addressed

- Strategies for surveillance and control of ASF in wild boar.
- Early detection.
- Stakeholders involved.
- Hunters and the important role.
- Linking ecology, epidemiology and disease control.
- To hunt or not to hunt.
- Driven hunt vs other methods of hunting.



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PPR, 2018

ASF, 2018 - 2019

HPAI, 2015,  
2016 - 2018

NCD

CSF, 2008, 2009

LSD, 2016

BT, 2014

SGP, 2013

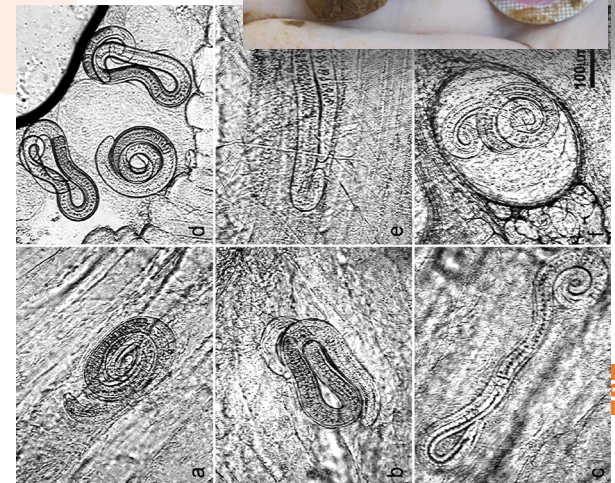
FMD, 2011



Food safety

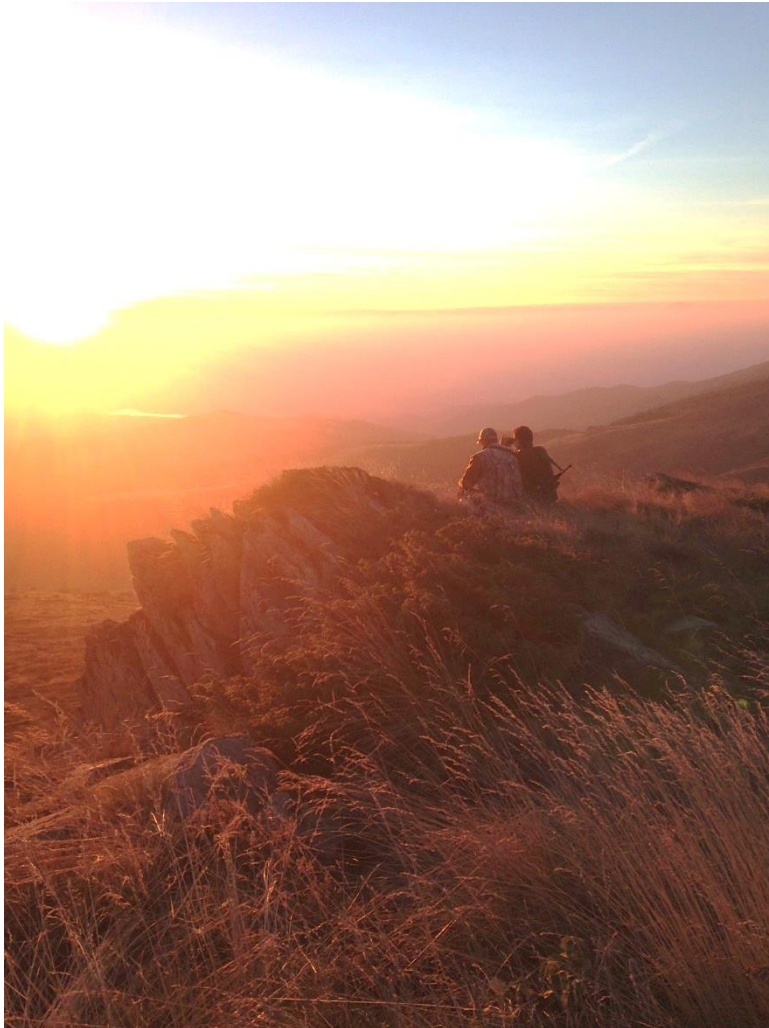
## Priorities and control programmes concerning wildlife in Bulgaria

Disease	Epidemiological situation
African swine fever	Parts II & III of Dec 2014/709
Classical swine fever	Last case in 2009
Foot and mouth diseases	Epidemic in wild boar in 2011
Rabies	Last case 2014
Avian Influenza	Cases in wild birds in 2015 - 2017
Bluetongue	Devastating epidemic in mouflons in 2014
<i>Trichinellosis</i>	Present
Other	.....





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## Goals

- *Healthy and under control wildlife (wildboar) populations*
- *Prevent wildlife from pathogens (ASFV...)*...
- *Early detection and rapid and adequate control in case of introduction*
- *Prevent introduction of diseases from wildlife to domestic livestock (ASFV from wild boar to domestic pigs)*
- *Safety of game meat*
- *Biosecurity*
- *.....*

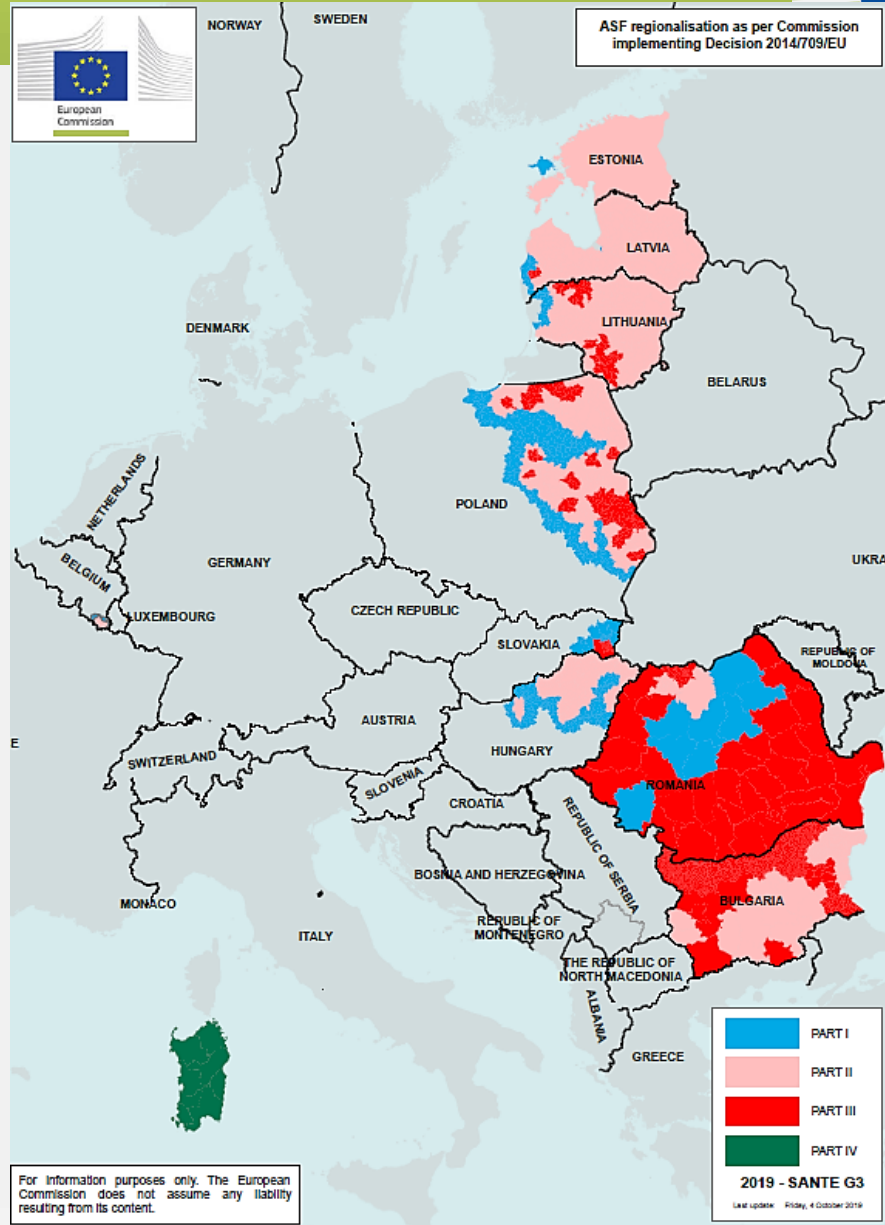
## Tools

- Clear and reliable control programmes and strategies based on:
  - ✓ all knowledge gathered from previous experience, experience of all other countries
  - ✓ science
  - ✓ wildlife ecology and abundance
  - ✓ specificity of the area
  - ✓ cooperation between vets and hunters
- Training and awareness of hunters on
  - ✓ their great importance for wildlife health, conservation, and surveillance
  - ✓ how to suspect/ recognize diseases in wildlife, the importance of immediate reporting, sampling, sharing information and knowledge
  - ✓ samples to be collected and transportation
  - ✓ hunting and biosecurity
  - ✓ hygiene of carcasses and game meat

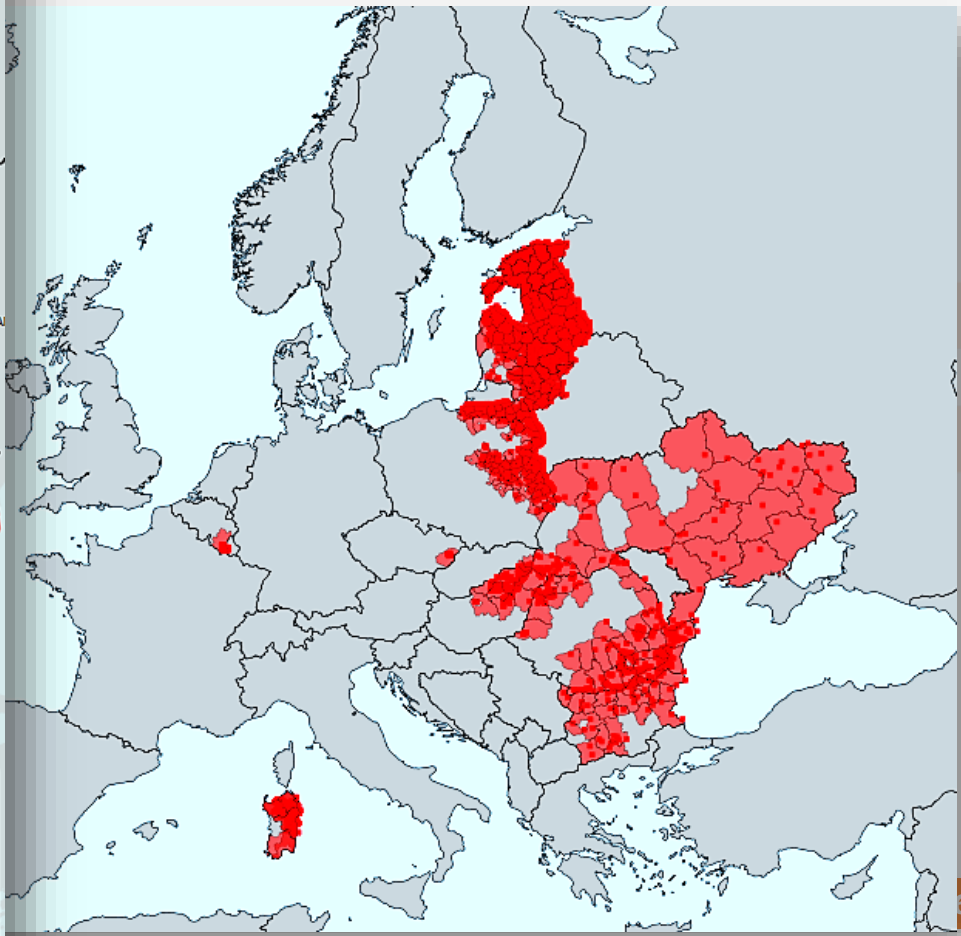


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ASF regionalisation as per Commission implementing Decision 2014/709/EU



# How did we come here?



ASF in wild boar, 2014 – Oct 2019

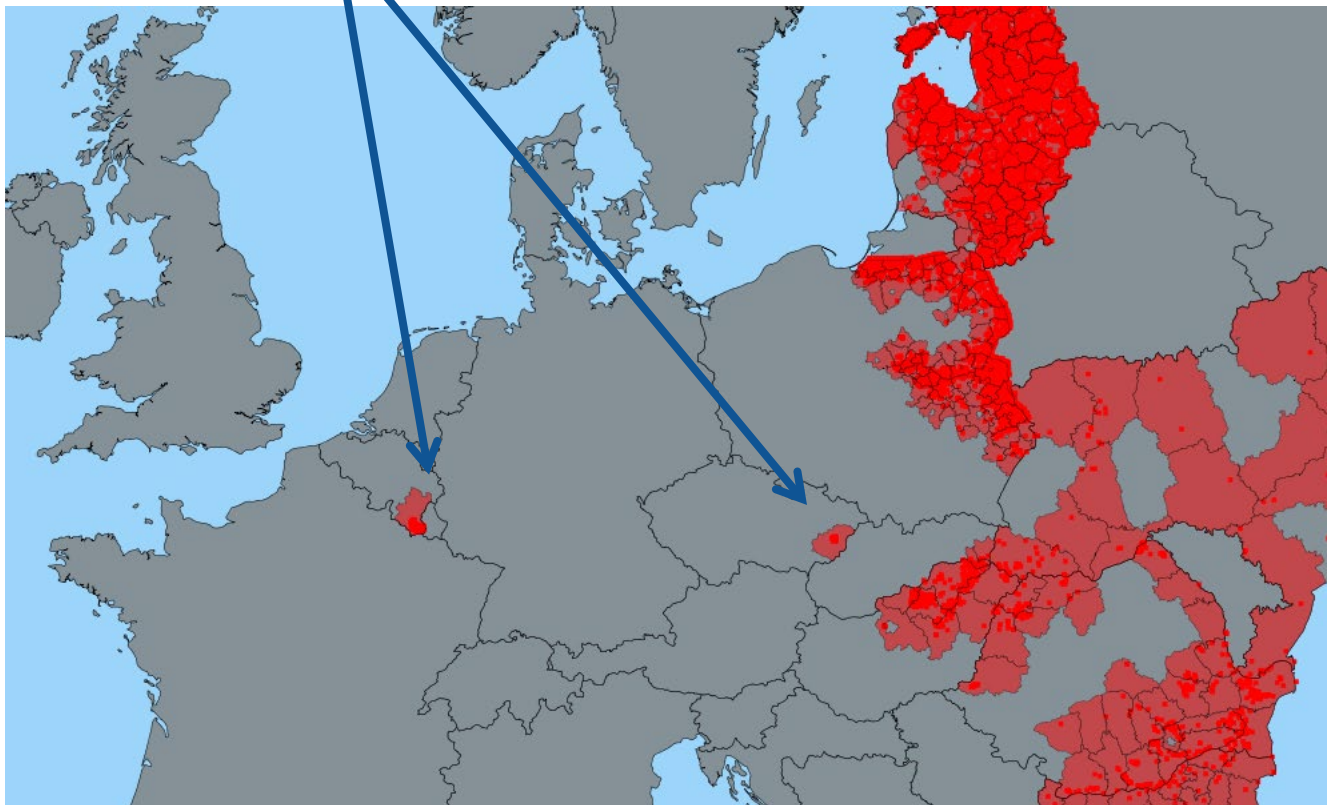
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- remarkable increase in Europe of wild boar population
- significantly increased epidemiological role of wild boar, as actual host species for a range of important livestock and human pathogens
- threat for re-emergence, spread and maintenance of some endemic and exotic diseases
- In the past we thought wild boar was not a reservoir for ASF.....





the human factor.....



ASF in wild boar, 2014 – Oct 2019



Industry

Farmers

Private vets



Stakeholders at greatest importance

Forestry agency

Competent Veterinary Authorities

Official vets



Hunters!

Management

Surveillance

Biosecurity



Backyard sector

# The very important role of the hunter

- Our eyes in the forest
- Wildlife conservation and management
  - Sampling
  - Biosecurity
  - Disposal of ABP
- Cooperation with the competent veterinary authority



## Strategic approach to the management of African Swine Fever for the EU

SANTE/7113/2015 - Rev 10

### *c) ASF measures to be applied for wild boar*

#### 3.1.2. Main strategic points

The following points for controlling and eradicating ASF in the wild boar population are to be applied at least to the areas under restriction as defined in Decision 2014/709/EU. List of points:

- a) Baiting is allowed (non-sustained feeding, limited food only for attracting wild boar for hunting, not exceed 10kg/km<sup>2</sup>/month).
- b) Sustained feeding of wild boar is prohibited.
- c) Targeted hunting is encouraged in order to target adult and sub-adult females.
- d) The overall hunting bag should be balanced between male and females (50% each). Priority in reaching the quotas should be given to adult and sub-adult females.
- e) Starting from the border between Part I and Part II of Decision 2014/709/EU, in a strip in Part II at least 20 km wide, hunting should be conducted as such to avoid excessive movement of animals. The size of the areas can be reviewed based on the outcome of a risk analysis.
- f) The minimum biosecurity requirements for hunters are applied.



4 different groups of wild boar overlapping....particularly at feeding sites

### 3.1.3. Measures to be taken in newly infected areas

- Total ban of wild boar hunting.
  - Restricted access
- Specific training for hunters
  - Active patrolling to find carcasses (by trained staff) in order to reinforce passive surveillance.
- Containers to store wild boar carcasses
  - Biosecurity
  - Testing of all wild boar carcasses.
  - Checking biosecurity measures in all pig holdings.
- Culling of wild boar by trained hunters.
- Biosecurity in place
- All culled animals to be rendered.
- Active patrolling to find carcasses (trained staff) in order to reinforce passive surveillance.
  - No driven hunts.
  - Total ban on feeding
  - Testing of all found carcasses and shot wild boar.
- Hunting by trained hunters with LOCAL consumption of wild boar meat after negative testing.
- Application of minimum biosecurity requirements for hunters
- No driven hunts.
- Total ban on feeding (no baiting).
- Testing of all found carcasses and shot wild boar.

Newly affected area

After 2-3 months  
without cases  
(....or when infection  
becomes endemic..)

After 4-5 months  
without cases  
(....no more pos. WB  
detected)

## **Around infected area (indicatively 100 km radius from the border of infected areas); measures to be applied at the onset of the infected area:**

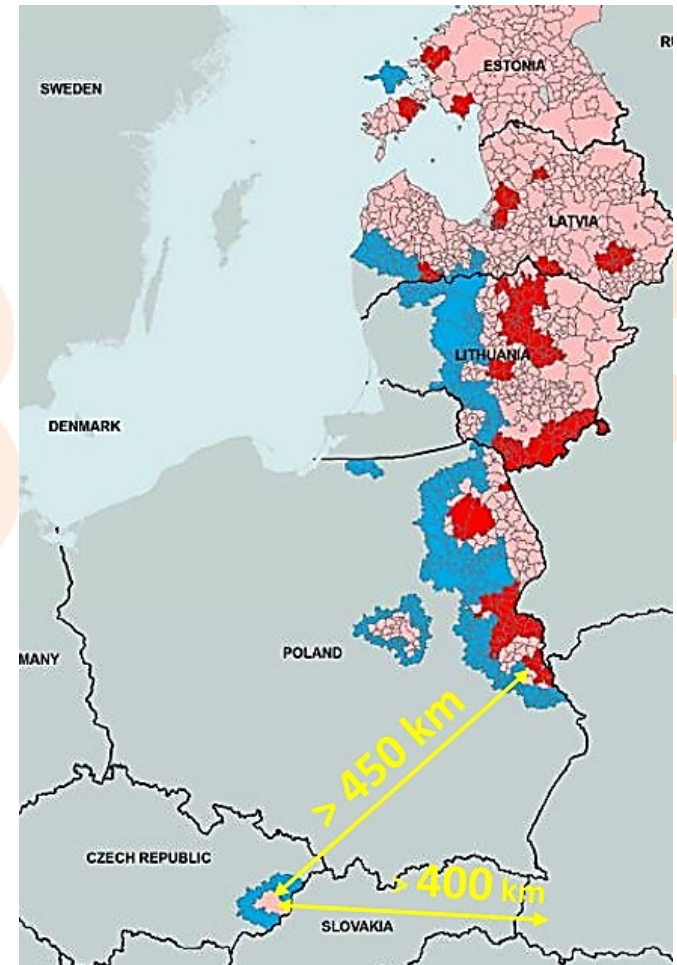
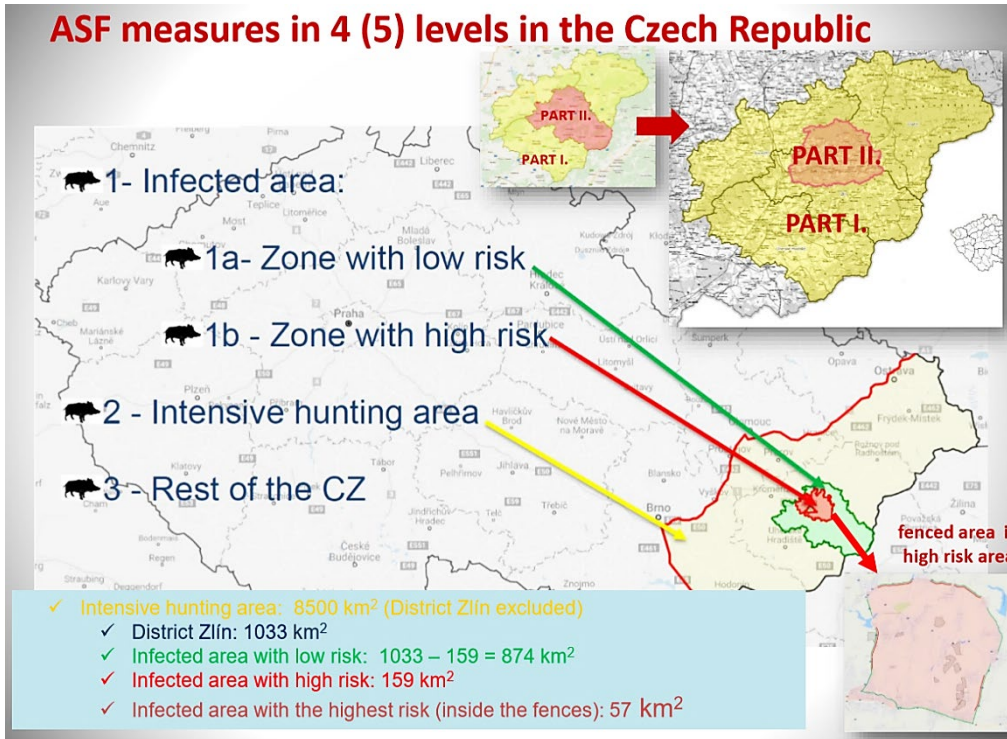
- Strong reduction of wild boar density needed. To achieve this, hunting by targeting adult females followed by sub-adult females (sex ratio of the hunting bag 1 male: 2 females). This needs to be coupled by a complete ban of any feeding (both sustaining and attractive). I
- All shot animals and found carcasses need to be tested with using qRT-PCR.
- Checking biosecurity measures in all pig holdings based on the priorities set out by the competent authority.



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# The best example of Czech Republic

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



Slides by Petr Štrán



## Electric fences around the infected area



<https://www.kr-zlinsky.cz>

Luděk Ovesný - MAERA

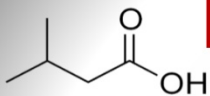
## Collection and disposal of carcasses one of the most important steps in ASF control and eradication

Collection of WB carcasses with financial motivation:

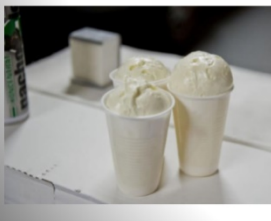
	Area	Reward in CZK
Finder reward	Czech Republic	2 000,-
	Area with intensive hunting	3 000,-
	Infected area – higher risk zone	5 000,-



## Odour fences around the infected area



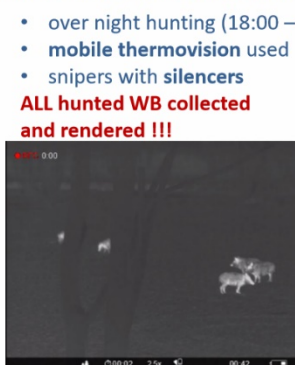
- synthetic foam with **3-Methylbutanoic acid (isovaleric acid)**
- **imitation of typical predators smell / odour**
- **strong pungent cheesy or sweaty smell**
- it is a major component of the cause of unpleasant foot odour
- most durable product chosen – resistant against weather conditions (+ with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



## Hunting by police snipers in the infected area

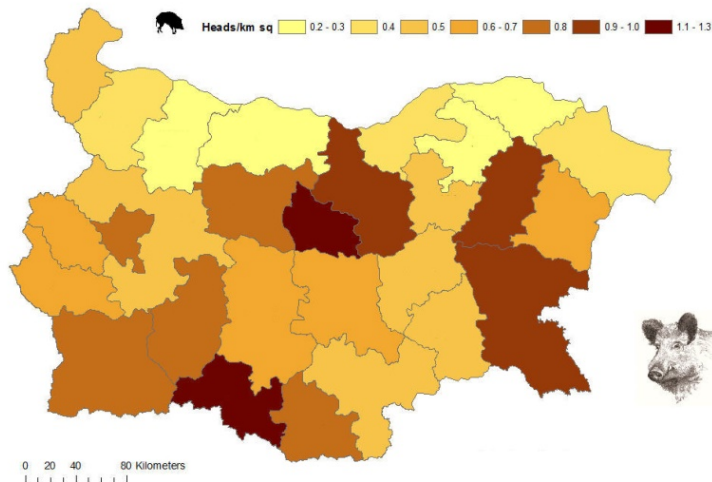
task: as fast as possible total depopulation inside the fenced area - quickly, silently, efficiently and with high biosecurity

- 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



**ALL hunted WB collected and rendered !!!**

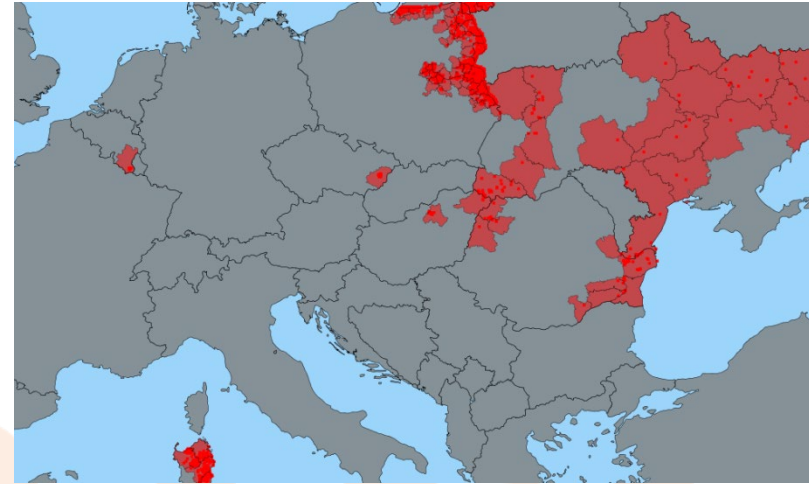
# Hunting and wild boar surveillance and control in Bulgaria in 2018



- Development of a software/app for hunters; the results from *Trichinella* testing will be provided only if an ASF sample is also submitted;
- Ban on trade of wild boar into the territory of Bulgaria;
- Trainings of hunters on epidemiology, sampling and enhanced biosecurity measures;
- Building of dedicated pits for WB carcasses and ABPs disposal in hunting grounds;
- Enforced passive surveillance in WB
- Individual hunting all over the year.

Beginning of Sept 2018: still  
no ASF in wild boar in BG

- Biosecurity requirements
- Regulation of hunting



- High risk zone – only individual hunt; no dogs allowed;
- Buffer zone – group hunting without dogs + individual hunt
- Rest of the country – driven hunt + individual hunt



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# The situation in 2018

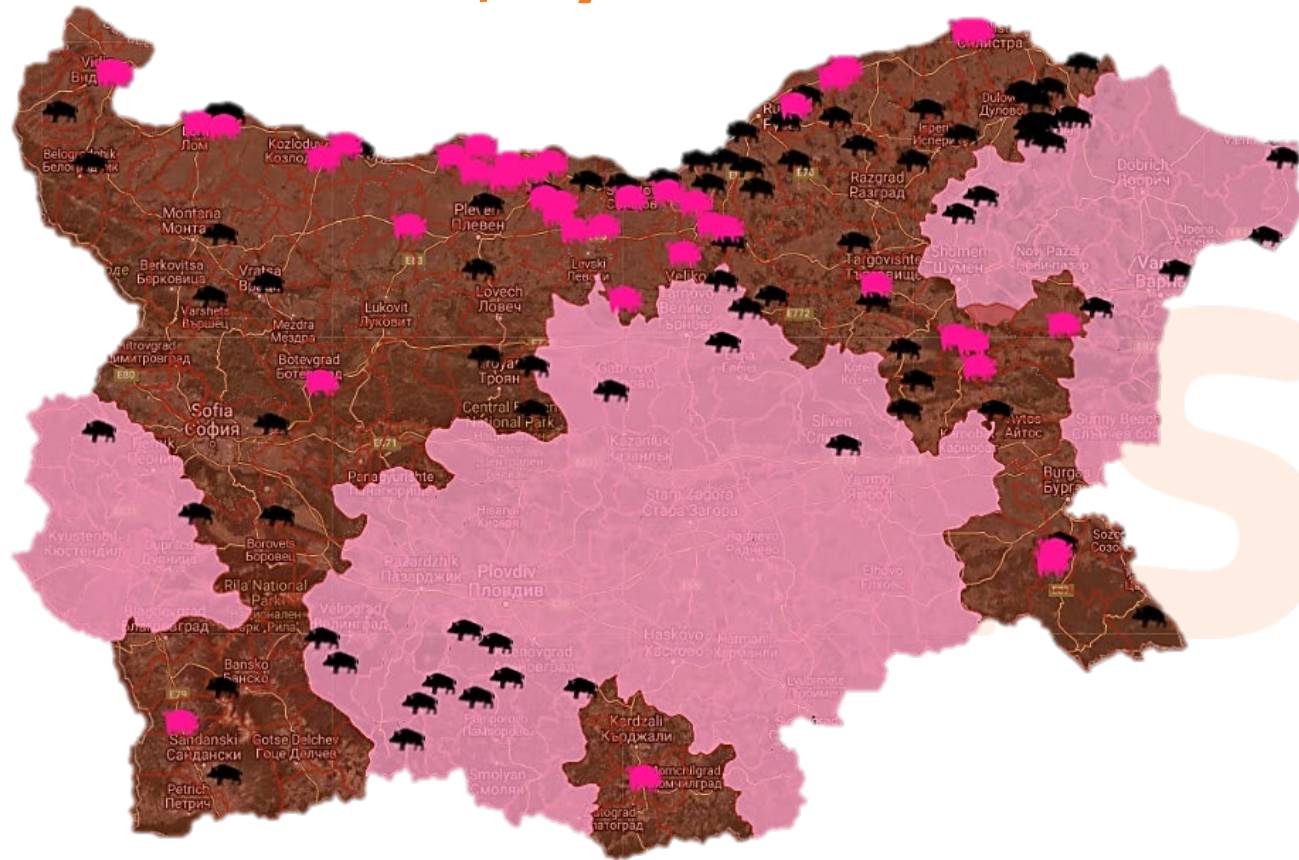


- Domestic pigs - 1 outbreaks in backyard with 5 pigs
- Wild boar – 3 infected areas with 20 confirmed cases (5 found dead/15 hunted)



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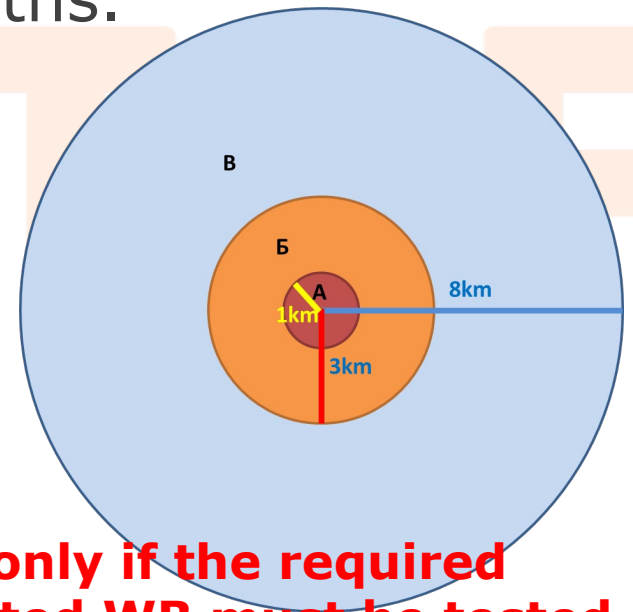
## The situation in 2019, by end of Oct



- Domestic pigs - 41 outbreaks with 142 036 pigs
- Wild boar – 78 infected areas with 123 confirmed cases (102 found dead/ 18 hunted/3 road killed)

## Strategies applied in Bulgaria in 2019 in case of ASF in wild boar

- Till October 2019 – at least 200 km<sup>2</sup> infected area fully restricted for two months.
- Since October:
  - a) No hunting and full restriction
  - b) Strictly controlled individual culling and trapping
  - c) Controlled group hunting

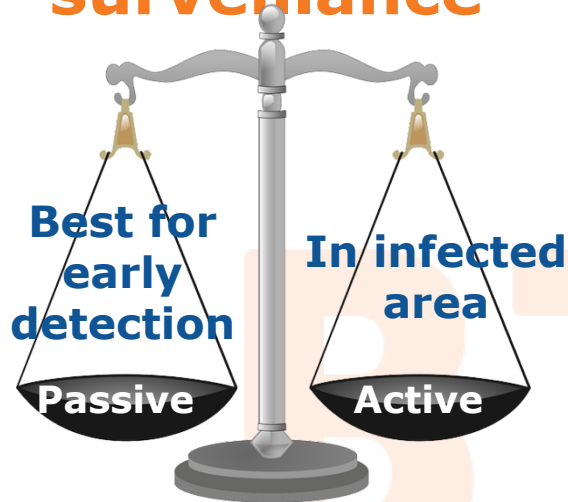


**All over Bulgaria hunting can happen only if the required biosecurity measures are in place! All hunted WB must be tested and meat can be used only after negative result for ASF!**



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# Passive Vs Active surveillance



## BFSA's Hunt app



- *The hunting application was launched in 2019 aiming to organize and represent the actual situation regarding sampling and data collection on wild boar.*
- *Advantages:*
  - *global accessibility;*
  - *easy handling;*
  - *fast data collection;*
  - *early awareness;*





## Software (system) requirements

- *BFSA Hunt app mobile version is accessible on Android (for all versions) and iOS (above version 11.0 or later) as well as desktop and online use.*



### Модул лов

БАБХ Медицина

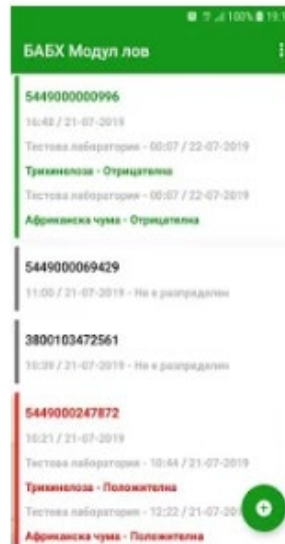
★★★★★ 25

PEGI 3

▲ Нямате устройства.

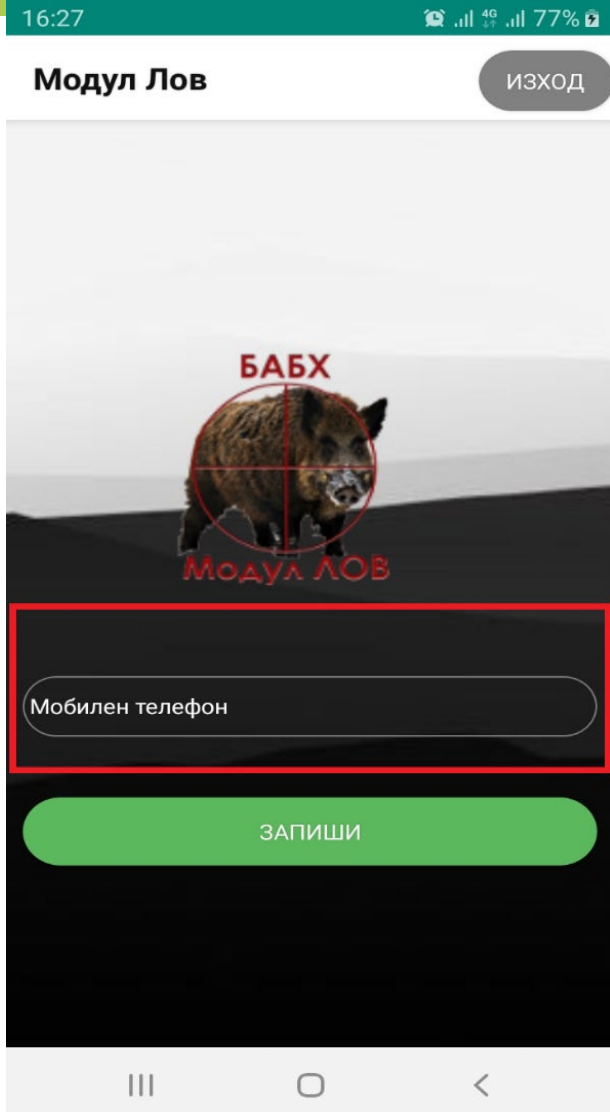
Добавяне към списъка с желания

Инсталиране





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- After the installation you can enter the app among your other applications on your mobile device.
- The startup screen, requires your mobile phone number so you can have quick feedback to check the results



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[ Нов Протокол ]

ИЗПРАТИ

Type of game: Wild boar

✓ ДИВА СВИНЯ

Gender: Male/Female

✓ ПОЛ

Hunted/found dead

✓ ОТСТРЕЛЯНО/МЪРТВО

Type-subtype - healthy, abnormal behavior, fresh or decomposed carcass

✓ ПОД-ТИП

Age: under 1 year; 1-2 years; 2-6 years and adult (more than 6 months)

✓ ВЪЗРАСТ

Weight: below 50 kg; 50-100 kg and over 100 kg

✓ ТЕГЛО

Samples: diseases to be checked (ASF and trichinellosis)

✓ Трихинелоза



✓ Африканска чума



Using camera access you can scan the barcode number or you can add it manually

[[[ Баркод Номер

When you click the button you are able to put additional photos



Drop down menu

Food safety

## [ Протоколи ]

00000 - не е платена

2020

25755

Изпратен на: 13:21 / 22-03-2019

Лаборатория: Тестова лаборатория

Проба за: Трихинелоза

Резултат: Положителна

Дата: 13:23 / 22-03-2019

Лаборатория: Тестова лаборатория

Проба за: Африканска чума

Резултат: Отрицателна

Дата: 13:23 / 22-03-2019

3800216121615 - не е разпределена

The results are also available on the official website of Bulgarian Food Safety Agency

Протокол  
BABX / Протокол

Преглед на проткол: 37012817

Телефон: 0882569737

Вид Дивеч: Дива свиня  
Тип: Мъртво намерено  
Под-тип: Пресен труп  
Пол: Женски  
Възраст: приплод (под 1 година)  
Тегло: Под 50 кг.  
Пол: Женски

Изпратена на: 13:06:39 16-10-2019  
Регистрирана на: 13:06:42 16-10-2019

Проби: Трихинелоза **Въведи резултат**  
Африканска чума **Въведи резултат**

Платена: Да

Резултати   Снимки   Местоположение

www.babh.government.bg/bg/Page/check\_game\_meat/index/check\_game\_meat?inc

БЪЛГАРСКА АГЕНЦИЯ  
ПО БЕЗОПАСНОСТ НА ХРАНИТЕ  
СИГУРНОСТ ВСЕКИ ДЕН

Български English

Документи   Пресцентър   Ползени връзки   За потребителя   За бизнеса   За нас   Начало

Начало > Проверка на номер за изследване на дивечово месо

Проверка на номер за изследване на дивечово месо

Въведете входящ номер

3800202530063 **Провери**

Баркод 3800202530063  
Вид дивеч Дива свиня  
Възраст приплод (под 1 година)  
Килограми Под 50 кг.  
Пол Женски

Резултати:

Болест Трихинелоза  
Дата на обработка 12:31 / 28-02-2019  
Резултат Отрицателна  
Лаборатория Тестова лаборатория

Болест Африканска чума  
Дата на обработка 12:31 / 28-02-2019  
Резултат Отрицателна  
Лаборатория Тестова лаборатория

Здравеопазване и хуманно отношение към животните

- Хуманно отношение
- Здравеопазване на животните

Актуални болести по животните

- Информация
- Изследвани проби за АЧС
- Въпроси и отговори
- Задай въпрос тук

Антикорупция

- Профилактика и борба с корупцията и измамите
- ЗПКОНПИ
- Антикорупционна анкета

Горещ телефон






- 0700 122 99
- Подай сигнал/предложение /запитване онлайн
- Проверка на сигнал

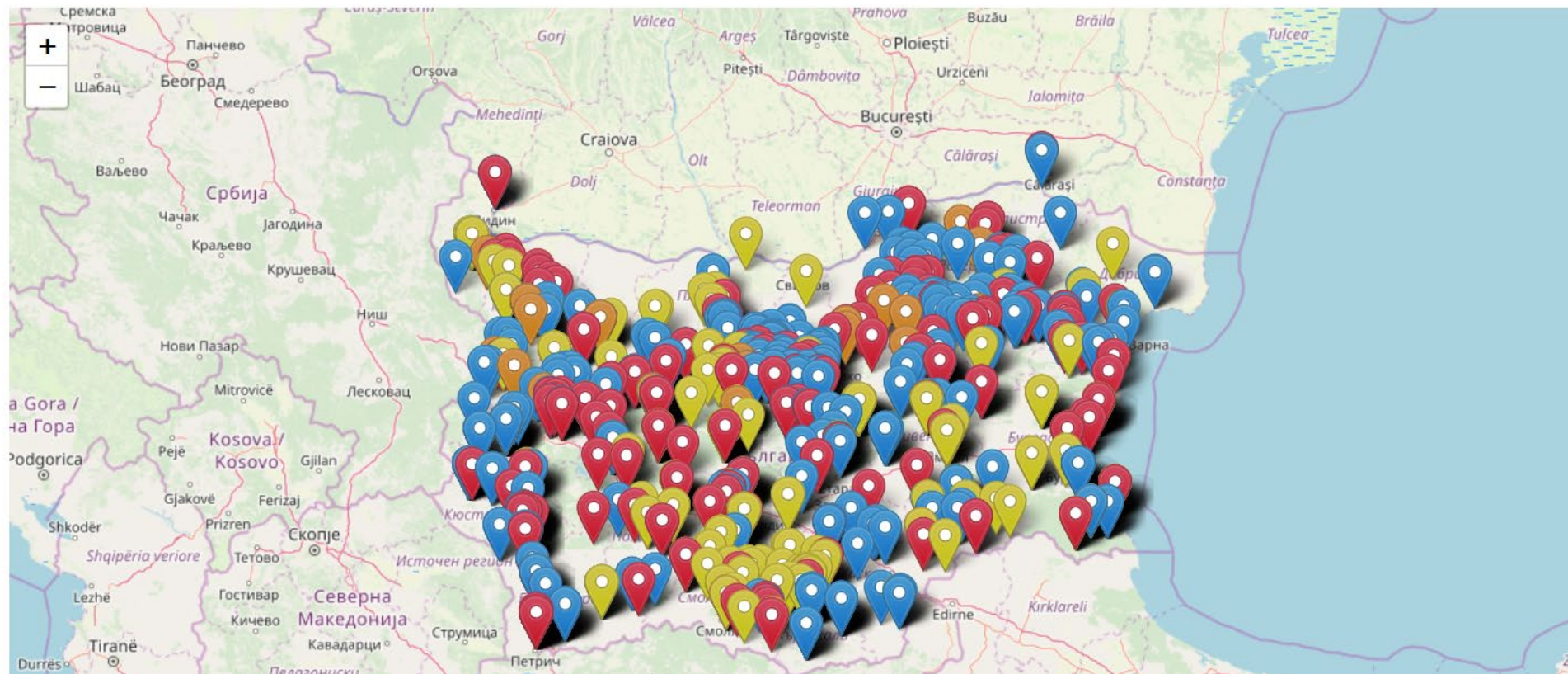
[www.babh.government.bg/bg/Page/check\\_game\\_meat/index/check\\_game\\_meat](http://www.babh.government.bg/bg/Page/check_game_meat/index/check_game_meat)



Интерактивен отчет за подадени протоколи през "Модул лов" към БАБХ - от 18.10.2019 00:00:00 до 25.10.2019 23:59:59

Период: 18.10.2019-25.10.2019

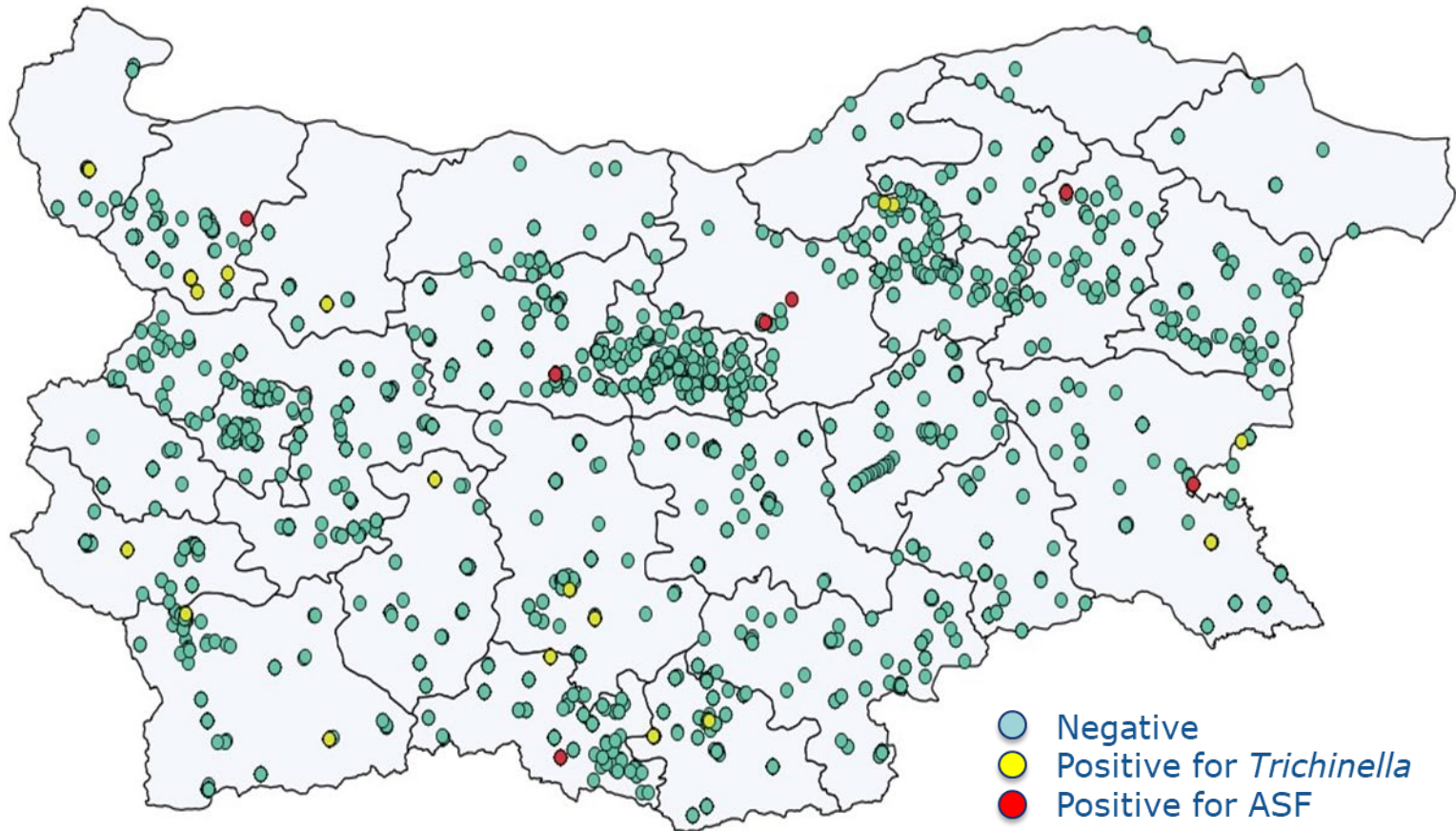
-  - Трихинелоза и африканска чума
-  - Трихинелоза
-  - Африканска чума
-  - Негодна проба
-  - Непроверена проба





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## Samples in hunt module, 5 – 20 Oct 2019



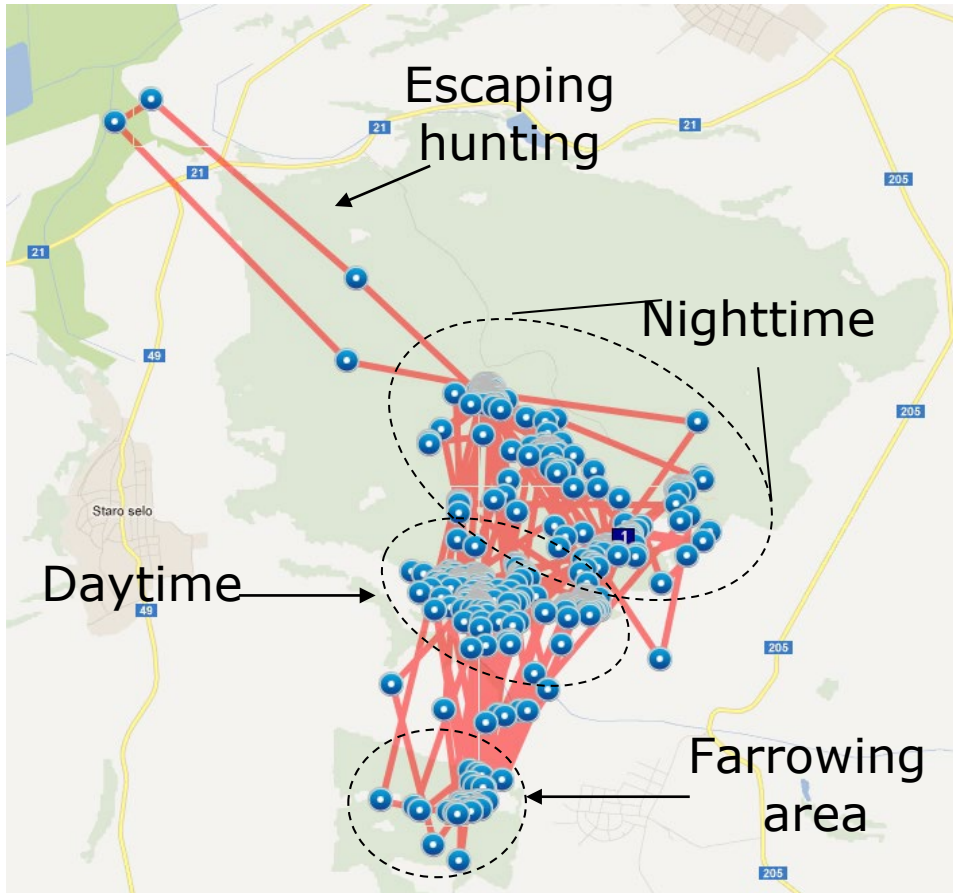
# To hunt or not to hunt.....



Type of hunt	Success rate	Advantages	Disadvantages
Group driven hunt	+	Tradition and philosophy for the Balkans?	Many hunters Risk for gaps in biosecurity Higher risk for spreading ASF via chasing animals ... Higher risk for spreading ASF via infected meat
Individual hunt from tower or walking	++	No disturbance of WB Biosecurity	Success depends on the individual quality
Trapping	++++	No disturbance of WB Biosecurity	Success depends on the quality of management
Night visions	+++++	No disturbance of WB Biosecurity	Success depends on the individual quality



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- WB normally very small home ranges (4 - 20 km<sup>2</sup>);
- Very boring schedules 😊
- Disrupted by only food availability or disturbance

One hour resolution movements of a tracked wild boar sow in Bulgaria





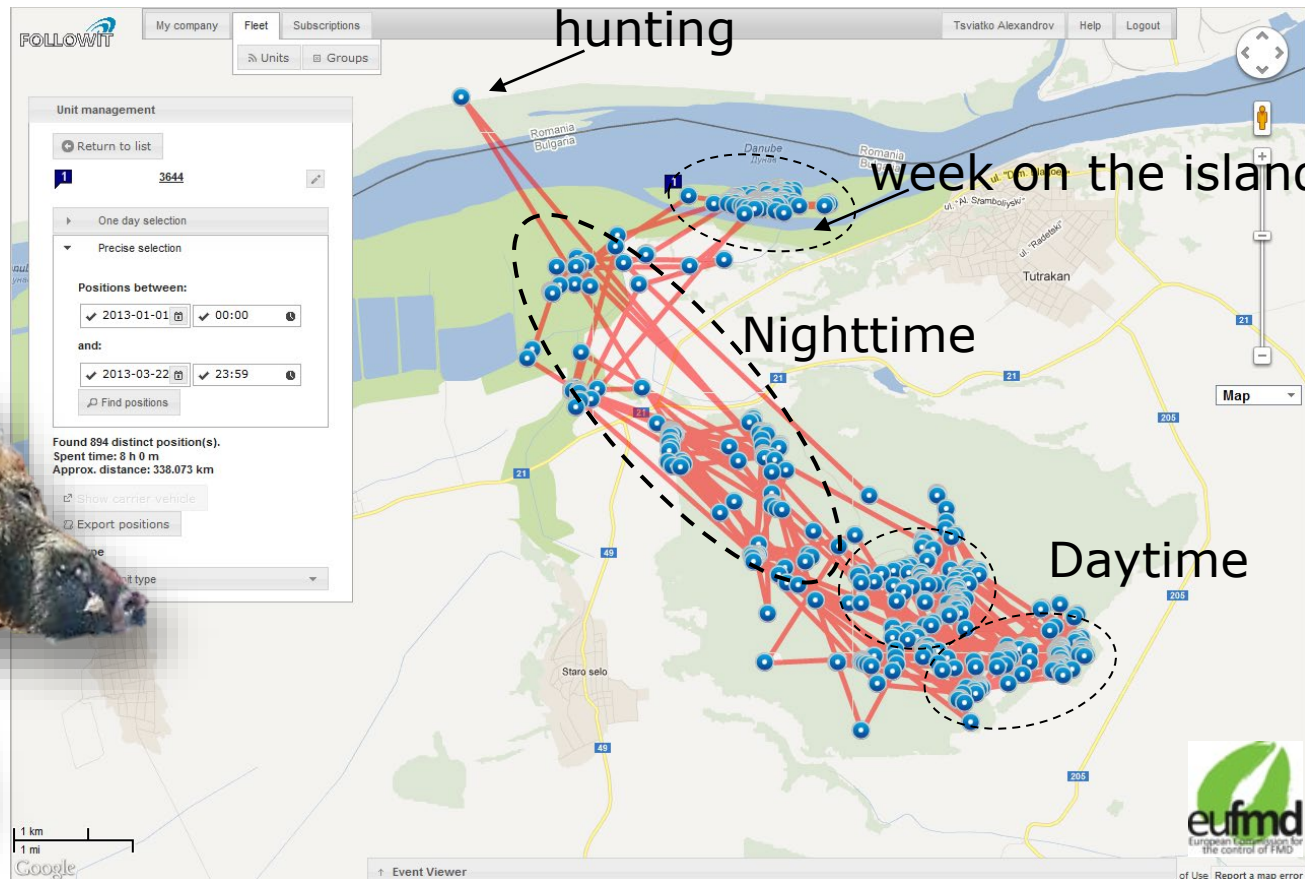
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# One hour resolution movements of a tracked 4 years old wild boar male in Bulgaria

Peace time, hunting,....rivers.....

1 Jan - 22 March

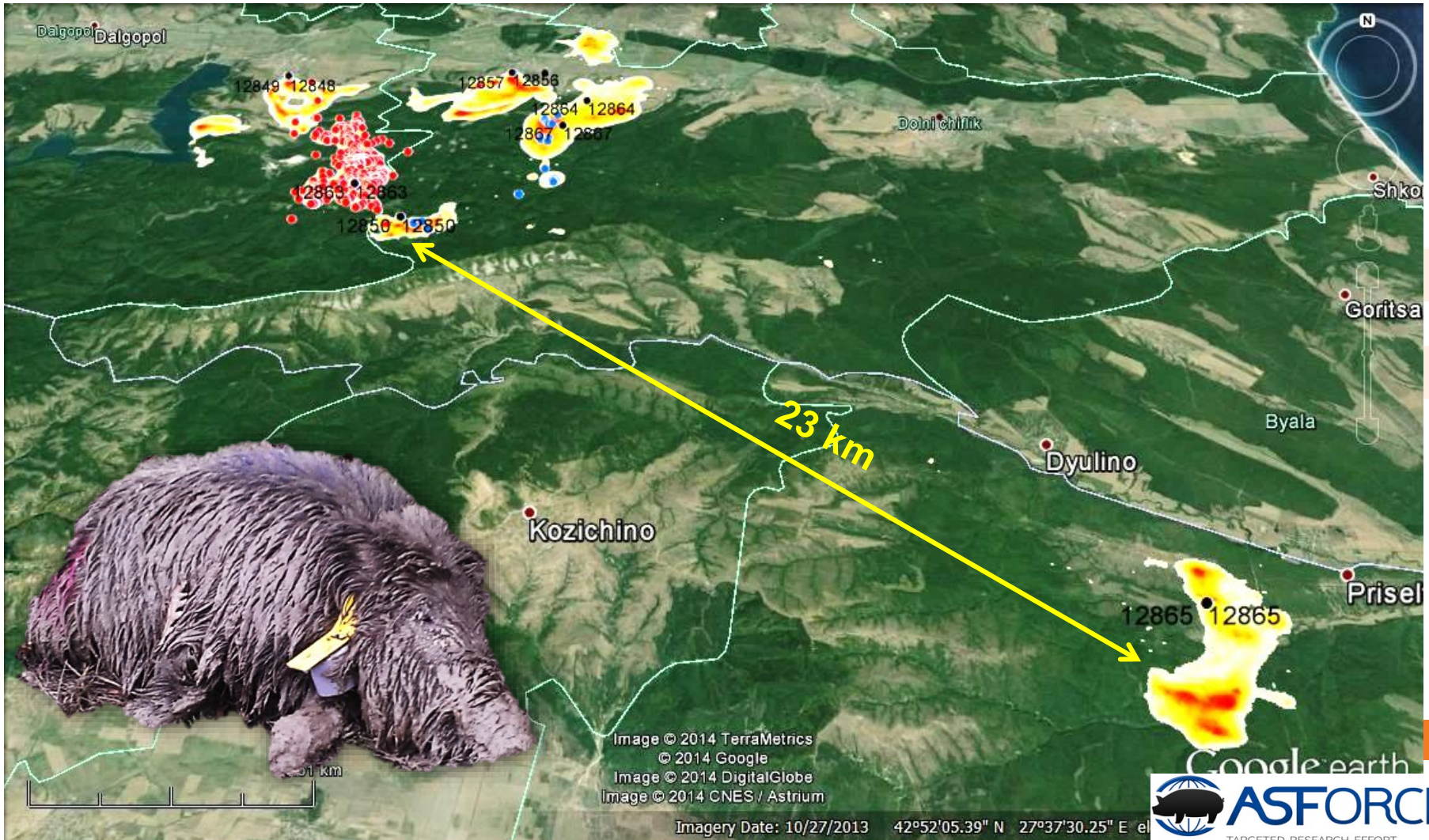
- 894 positions
- a total of 338 km
- Crossed Danube into Romania one occasion





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# When chased.....





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14 WB



23 WB

## Trapping as an alternative method to control FMD/CSF/ASF in wild boar

Experienced in 2009 (CSF) & 2011 (FMD) & **now (ASF)**

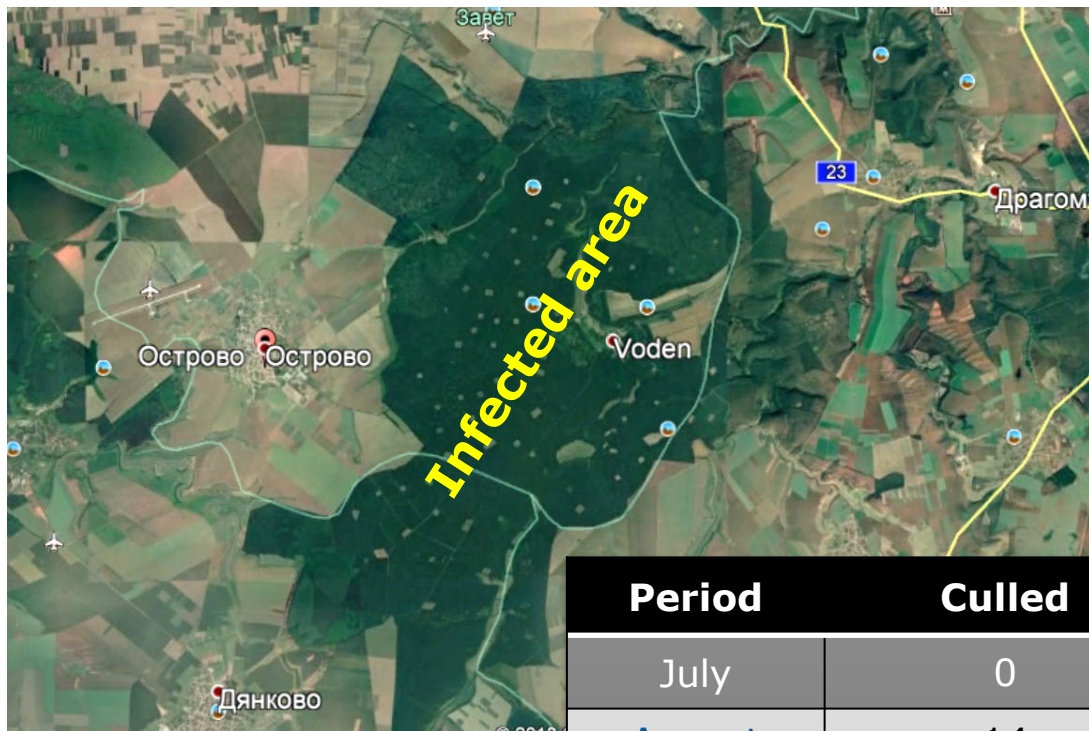
Works well for:

- ✓ Surveillance
- ✓ Decreasing of population

*volume 30 (3) of the OIE Scientific and Technical Review*

[http://web.oie.int/boutique/index.php?page=ficprod&id\\_produit=946&fichrech=1&lang=en](http://web.oie.int/boutique/index.php?page=ficprod&id_produit=946&fichrech=1&lang=en)

## The example of Voden...



- The area - 170 km<sup>2</sup>
- ASF confirmed in July
- Estimated WB population at that time: 270 WB
- By 25<sup>th</sup> Oct population reduced by trapping, culling and mortality by 250 WB
- End of Oct – area almost depopulated

Period	Culled	Trapped	Found dead
July	0	18	23
August	14	16	55
September	40	21	2
October	21	40	0
<b>Total</b>	<b>75</b> (25 ASF pos.)	<b>95</b> (13 ASF pos.)	<b>80</b> (all ASF pos.)

pe  
mi



8 WB



4 WB



10 WB



5 WB



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## The success rate depends on ....



SUNTEK HC700G 09/05/2019 07:34:29 11°C/51°F 100%

Food safety



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## ...the quality of management



SUNTEK HC700G 09/06/2019 01:00:53 14°C/57°F 100%

F



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# Thank you!

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<http://opera-italy.eu/>

## **Better Training for Safer Food BTSF**

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