# Better Training for Safer Food

*Initiative*

## Wild Boar ecology

BTSF

GF-TADs

GLOBAL FRAMEWORK FOR THE PROGRESSIVE CONTROL OF TRANSBOUNDARY ANIMAL DISEASES

Food and Agriculture Organization of the United Nations

WORLD ORGANISATION FOR ANIMAL HEALTH

# Wild Boar

The wild boar (*Sus scrofa*), also known as the wild swine or Eurasian wild pig, is a suid native to much of Eurasia, North Africa, and the Greater Sunda Islands.

# Wild boar

**North African boar**
*S. s. algira*

**Carpathian boar**
*S. s. attila*

**Indian boar**
*S. s. cristatus*

**Central Asian boar**
*S. s. davidi*

**Maremman boar**
*S. s. majori*

**Northern Chinese boar**
*S. s. moupinensis*

**Japanese boar**
*S. s. leucomystax*

**Mediterranean boar**
*S. s. meriodionalis*

**Formosan boar**
*S. s. taivanus*

**Anatolian boar**
*S. s. libycus*


Wild Boar

< 90°

Domestic Pig

> 90°

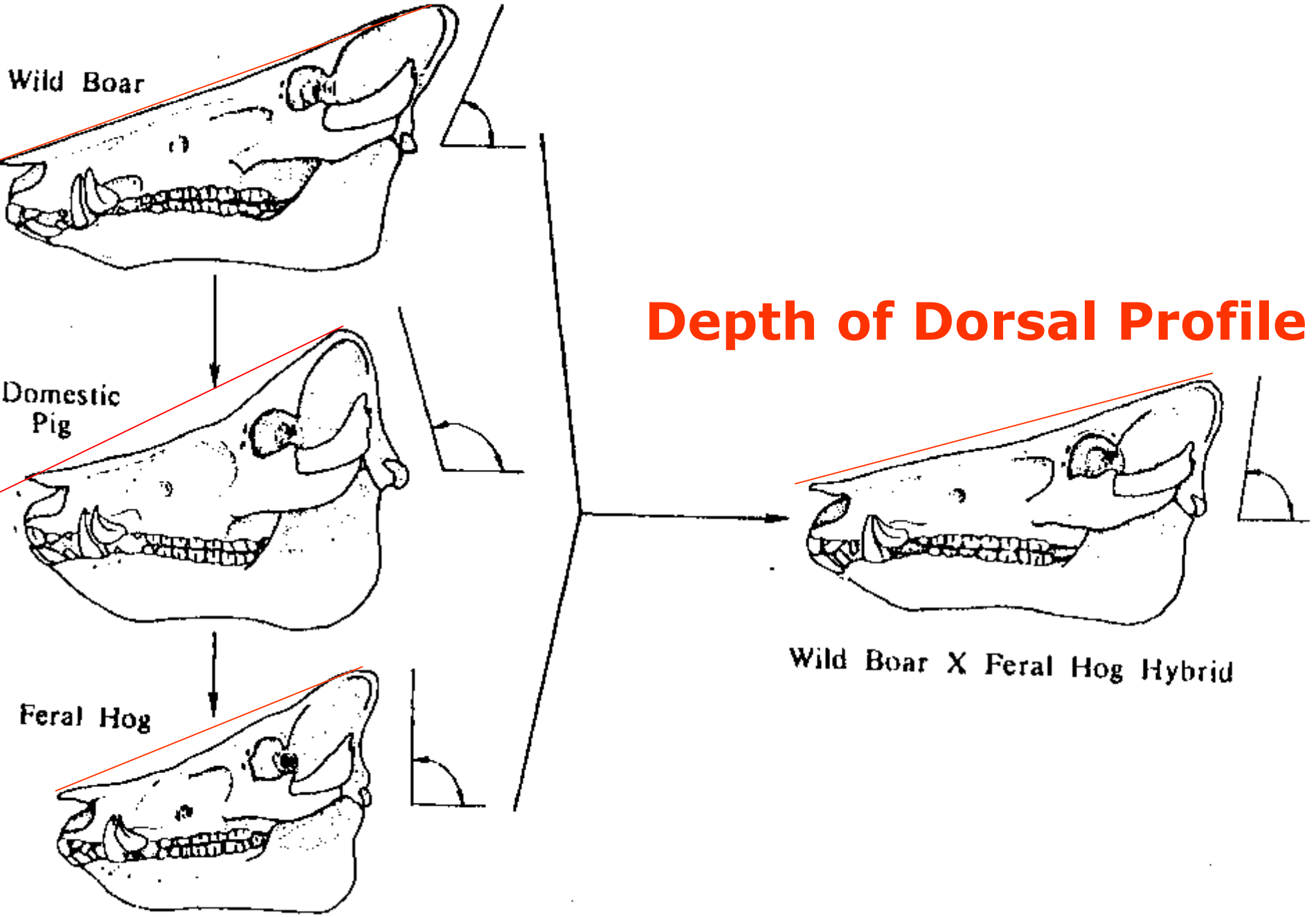
Feral Hog

= 90°

< 90°

Wild Boar X Feral Hog Hybrid

# Angle of Occipital wall


Wild Boar
Domestic Pig
Feral Hog
Depth of Dorsal Profile
Wild Boar X Feral Hog Hybrid

# Central European boar

A medium-sized, dark to rusty-brown haired subspecies with long and relatively narrow lacrimal bones

Northern Spain, northern Italy, France, Germany, Benelux, Croatia, Belarus, Denmark (few), Lithuania, Poland, Czech Republic, Slovakia and possibly Albania

# Ecology

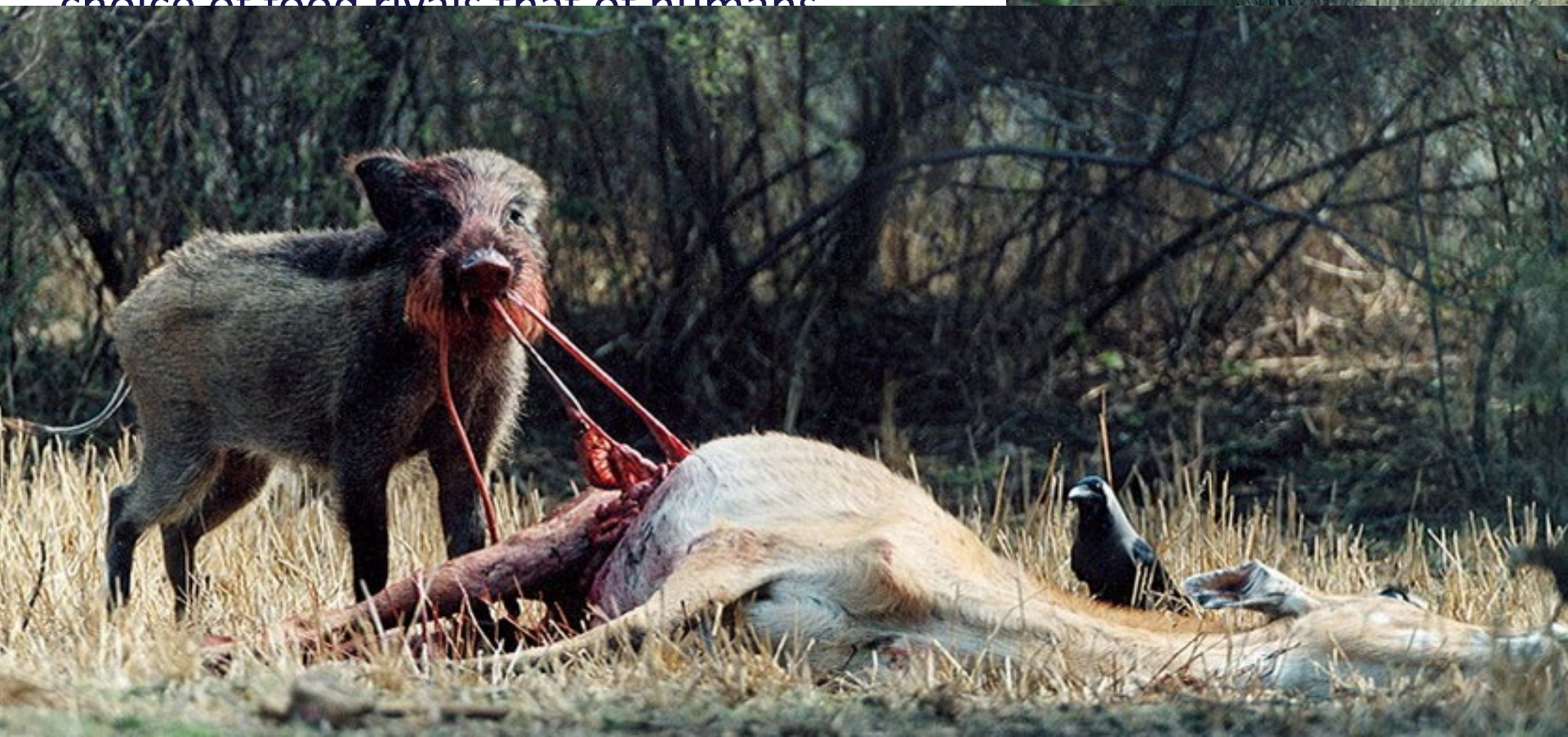
- The wild boar inhabits a diverse array of habitats from boreal taigas to deserts.
- In mountainous regions, it can even occupy alpine zones, occurring up to 1,900 metres in the Carpathians, 2,600 metres in the Caucasus and up to 3,600-4,000 metres in the mountains in Central Asia and Kazakhstan.
- The main habitats favored by boars in Europe are deciduous and mixed forests, with the most favorable areas consisting of forest composed of oak and beech enclosing marshes and meadows.

# Ecology

- In the Białowieża Forest, the animal's primary habitat consists of well developed, broad-leaved and mixed forests, along with marshy mixed forests, with coniferous forests and undergrowth's being of secondary importance.
- Wild boar are known to be competent swimmers, capable of covering long distances. In 2013, one boar was reported to have completed the seven mile swim from France to Alderney in the Channel Islands. Due to concerns about disease it was shot and incinerated.

# Diet

The wild boar is a highly versatile omnivor
choice of food rivals that of humans

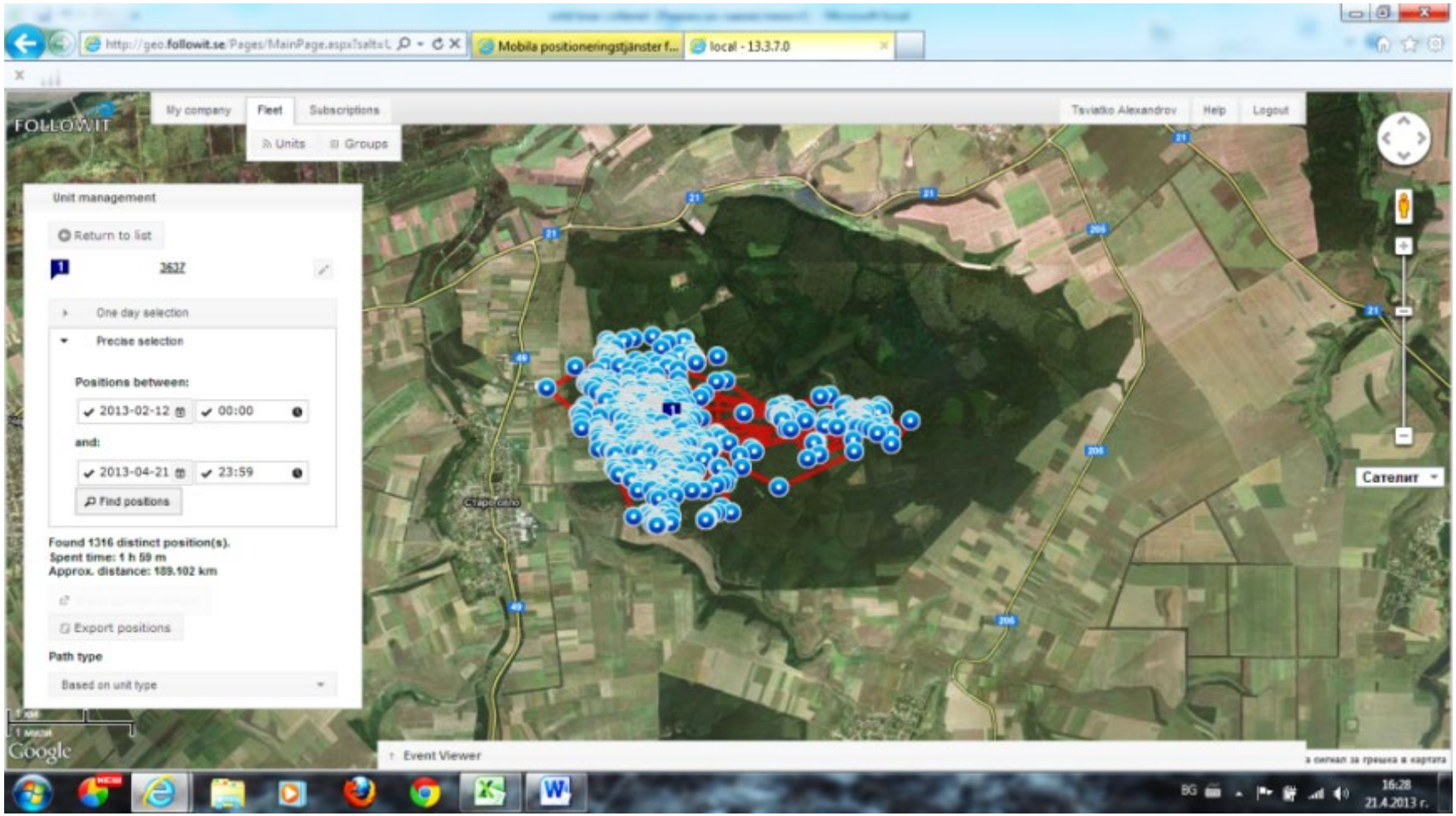


# How far can wild boar move?

# Example of Bulgaria


Virbac
SALUD ANIMAL
NEUROLOGÍA
Zoletil 100
ANESTÉSICO GENERAL PARA
CARNÍVOROS DOMÉSTICOS
USO VETERINARIO
Virbac
Zoletil 100
Virbac
Zoletil 100


ВИСОКО
НАПРЕЖЕНИЕ
ОПАСНО ЗА ЖИВОТА



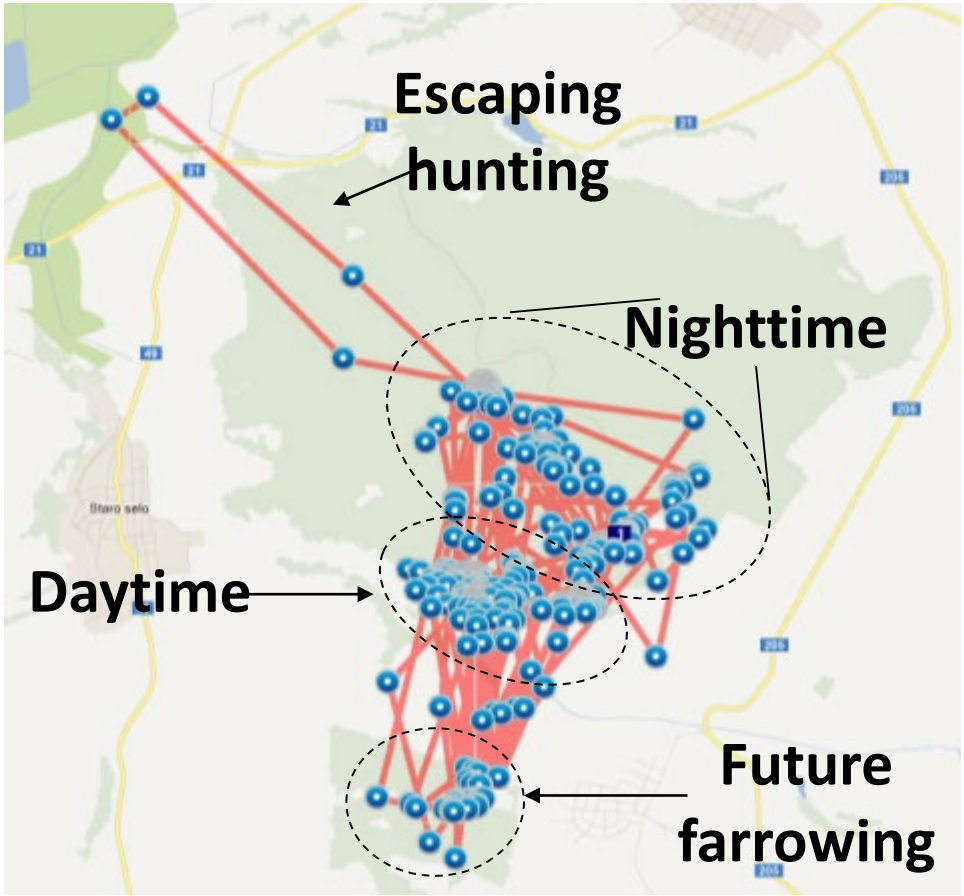

**4 years old female**

**Tracked for 87 days**

**Positons received: 2149**

**Home range: 7 km$^2$**

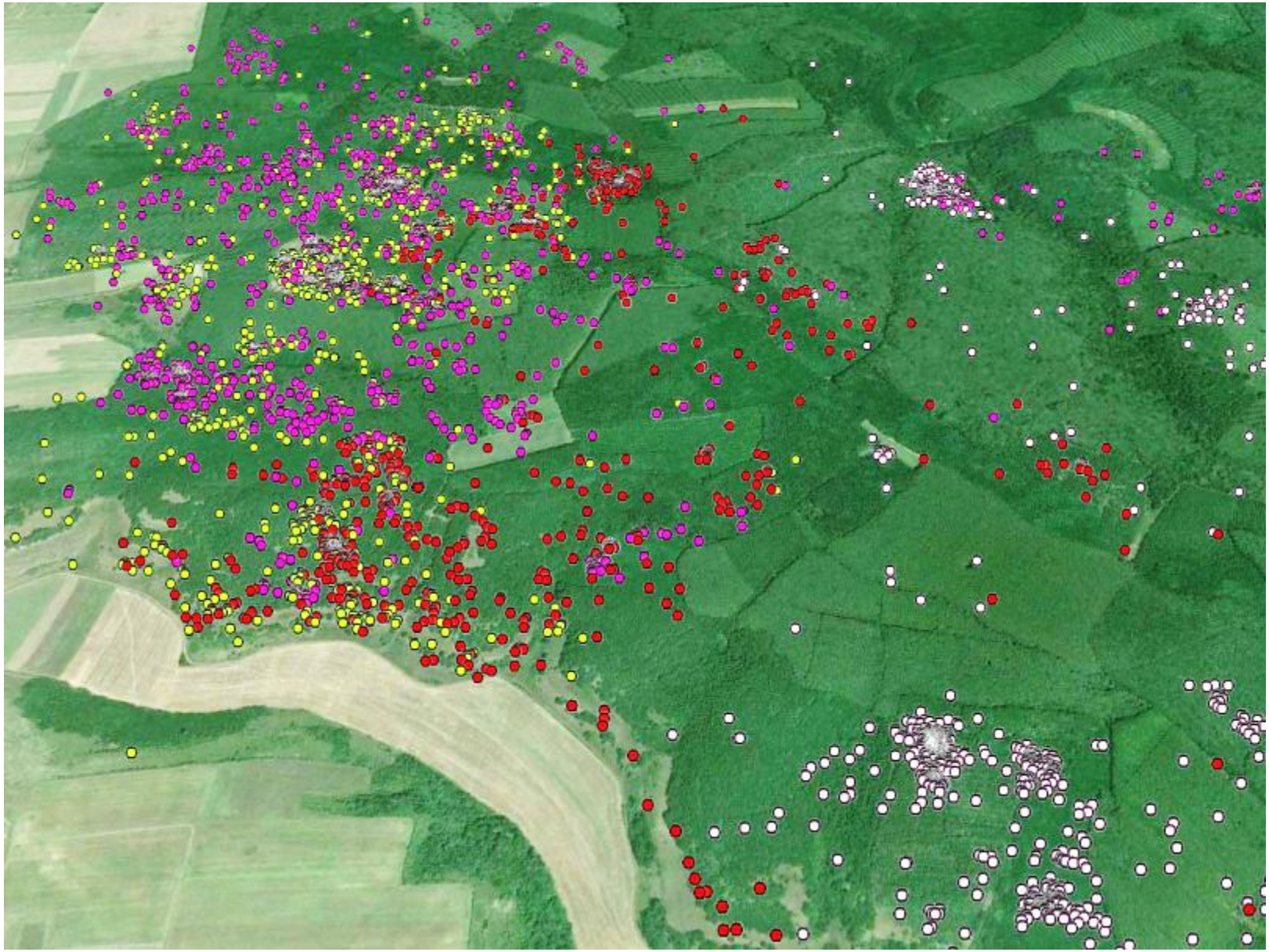
# Movement




1 hour resolution movements of a tracked wild boar saw in Bulgaria

**WB normally very small home ranges (4 - 20 $km^2$);**

**Disrupted by only food availability or disturbance**



4 different groups of wild boar overlapping…..

# How far can wild boar go?




ASFORCE
TARGETED RESEARCH EFFORT ON AFRICAN SWINE FEVER

# Diseases

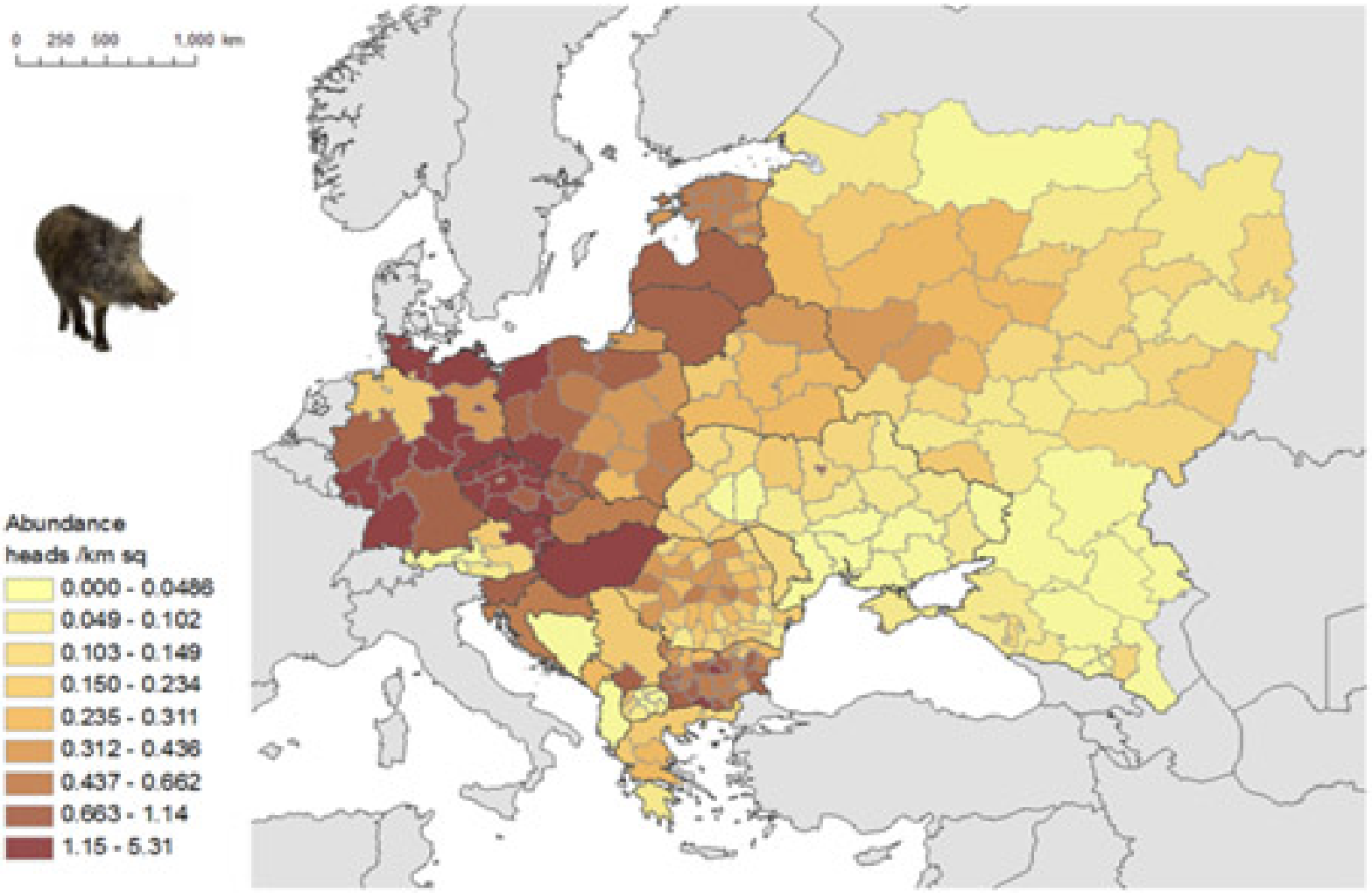
- Pseudorabies (Aujeszky's disease)
- Swine brucellosis
- Influenza
- Tularemia
- West Nile virus
- E. coli
- Salmonella
- Trichinosis
- Streptococcus
- Ticks, fleas, lice
- Internal parasites
- Toxoplasmosis and Trichinosis

- **Classical swine fever**
- **African swine fever**
- **PRRS**
- **Anthrax**
- **Foot and mouth disease**
- **Porcine circovirus**

# African swine fever in wild boar – risk factors

- ✓ *Presence of the virus;*
- ✓ *Size of the population;*
- ✓ *Density of the population;*
- ✓ *Size and density define the wild boar geographical distribution;*
- ✓ *Age and gender of the infected wild boar population;*
- ✓ *Type of hunting;*
- ✓ *Period of the year during which the virus has been detected/introduced.*

# Wild boar density



# Can we control the hunters?



http://explorepahistory.com/displayimage.php?imgId=1-2-425

# Wild boar density - how to estimate??

| Type of survey | Measurement tool(s) | Potential measurements | Potential metrics of abundance |
|---|---|---|---|
| Track | Tracking plots | Number of track intrusions<br>Presence–absence | Index |
| Dung | Defined areas for Pellet counts | Number of pellet groups | Index |
| | DNA analysis | Number individuals and "recaptures" | Known to be alive |
| | | | M-R density estimate |
| Road counts (counts from vehicles) | Human observers | Counts | Index |
| | Spotlight<br>Night vision | Distance to animals observed | Density estimate |
| | Thermal imaging | | |
| Aerial surveys | Human observers | Counts | Index |
| | Video<br>Thermal imaging | Number of animals in strip transect(s)<br>Distance to animals from aerial transect | Density estimate |
| Animal marking | Trap and mark | Resight/recapture | Density estimate |
| | Bait markers | Capture and check for mark | Known to be alive index |
| Take rates | Hunter survey | Hunter take | Take index |
| | | Hunter effort | Take/effort index |
| Camera | Camera traps | Number photographed | Index |
| | | Resight (recapture) | Known to be alive index |
| | | | Density estimate |
| Plot occupancy | Geographic units | Assessed occupancy within a unit | Density estimate |
| | | | Occupancy index |

https://www.aphis.usda.gov/wildlife_damage/nwrc/publications/13pubs/engeman139.pdf

# Estimation methods

**Trail drive away** – counting of animals driven away from a forest

area surrounded by observers (direct method) with silent beater:

- on 10% of the area covered by animals' counting;
- with a use of observers and beater (app. 50-70 persons);
- calculation error – around 20%;
- experienced personnel (discipline – extremely important) – to avoid double counting of the same animals;
- in winter – lack of leaves on the trees – good vision;
- additional information on animals age and sex can be obtained.

# Wild boar density - how to estimate??


# Estimation methods

**Other estimation methods:**

- **indirect :**

– snow traces calculation,

– faces groups calculation (moose's);

- **direct :**

– annual observation,

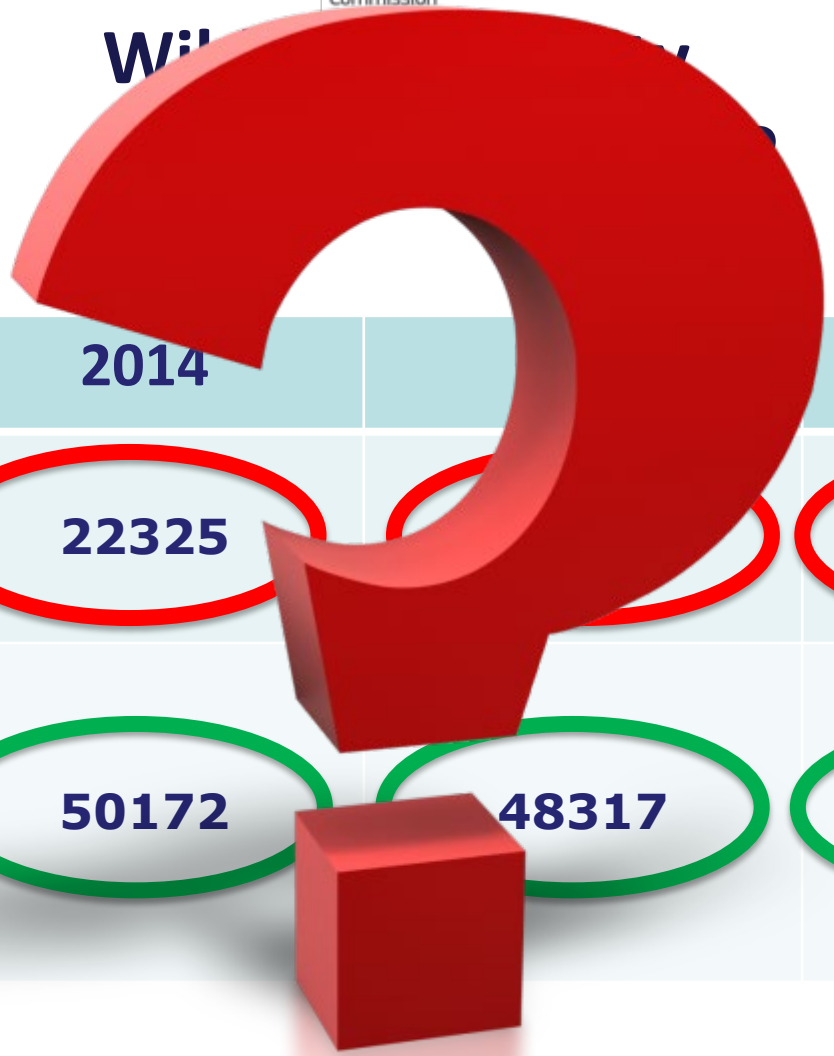
– counting in habitats,

– counting of animals entering open areas,

– aerial surveys (open areas),

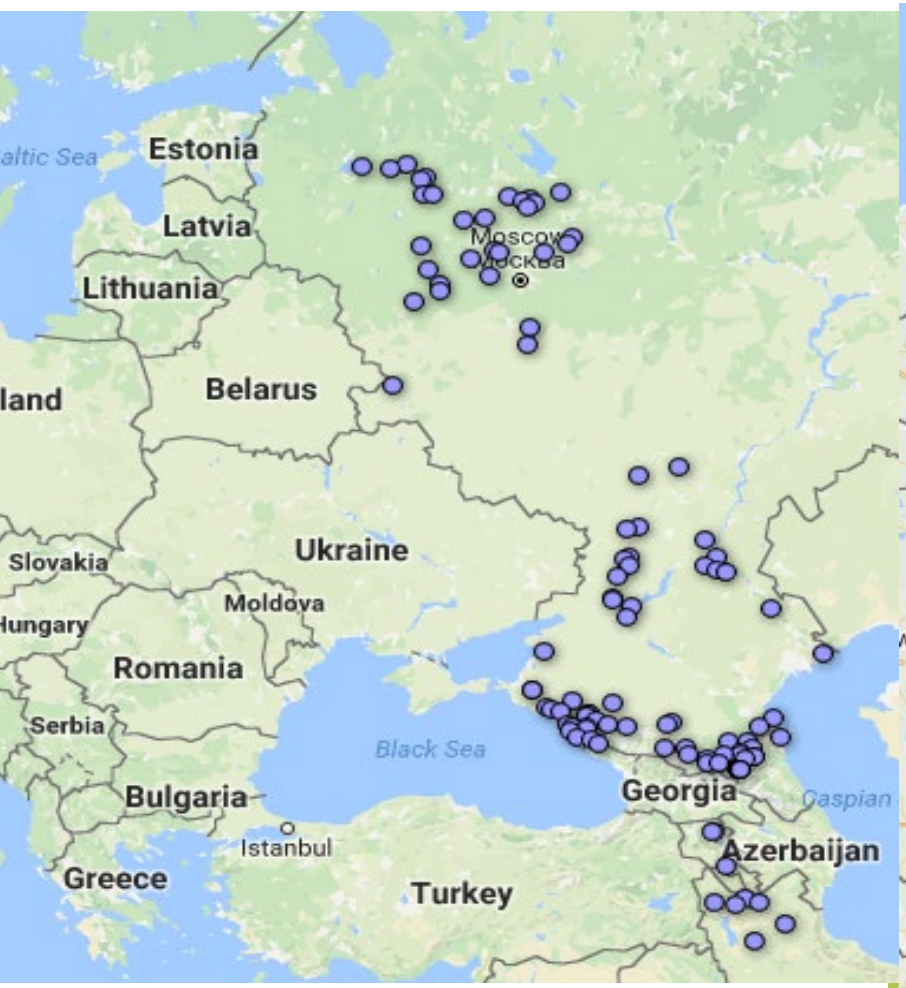
– thermal counting (deer's and moose's).

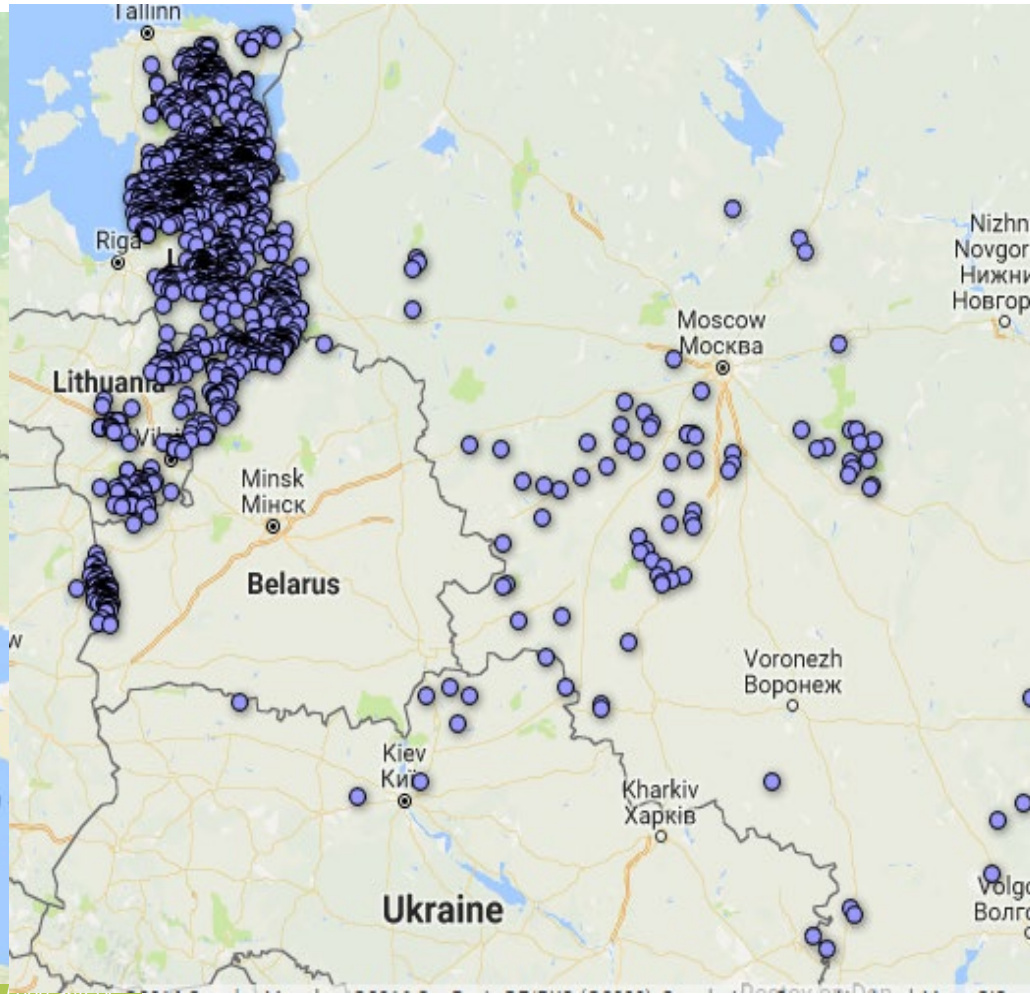

# Wi



| | 2014 | | 2016 |
|---|---|---|---|
| No of WB counted in Lithuania | 22325 | | 19699 |
| No of hunted WB during a season (data presented 15/04) in Lithuania | 50172 | 48317 | 42188 |

# ASF distribution in wild boar since 2007

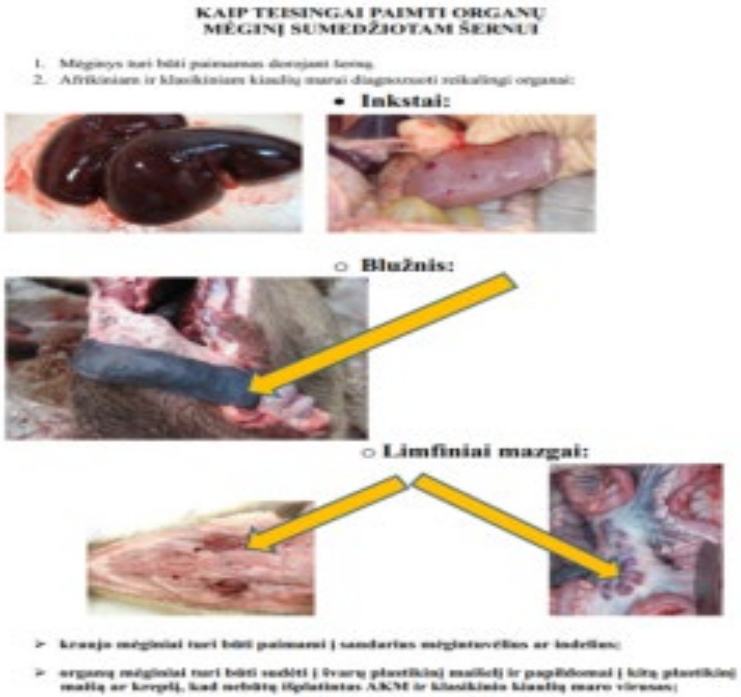



2007-2014

2014-2016

***Continuous awareness campaigns*** *should be foreseen for hunters for informing about the new strategy and the intended goals so to encourage the participation of hunters in the strategy.*

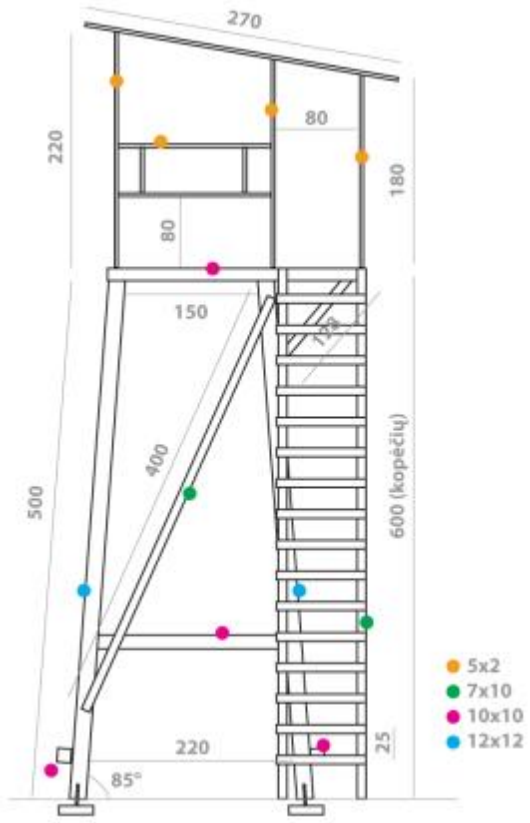



# Hunting methods

## Driven hunt

# Hunting methods

## Solo hunt




# Thank you for attention!
# Questions?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