



Wild Boar Ecology and Management

Tomasz Podgórski



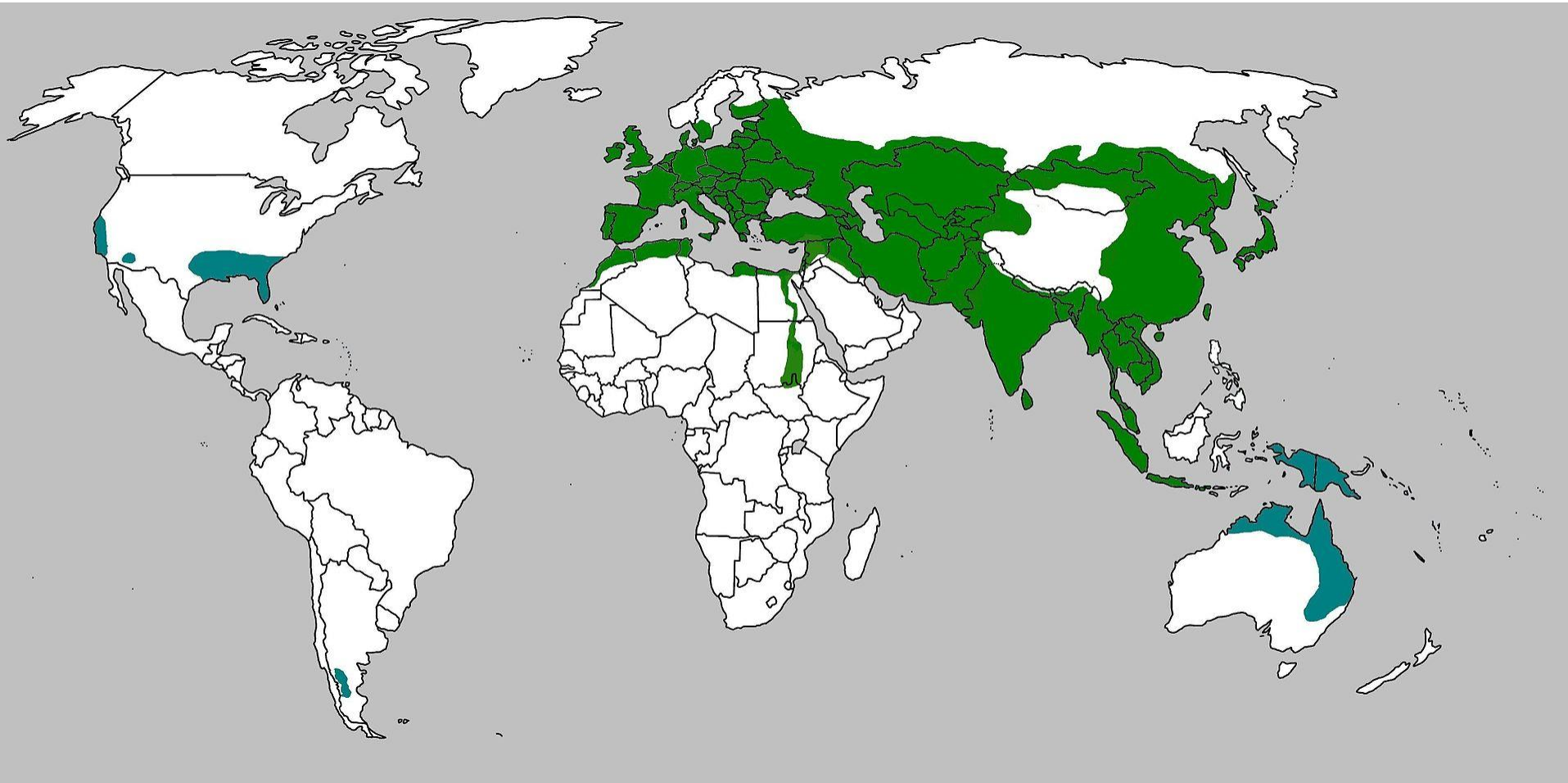
Mammal Research Institute
Polish Academy of Sciences
Białowieża



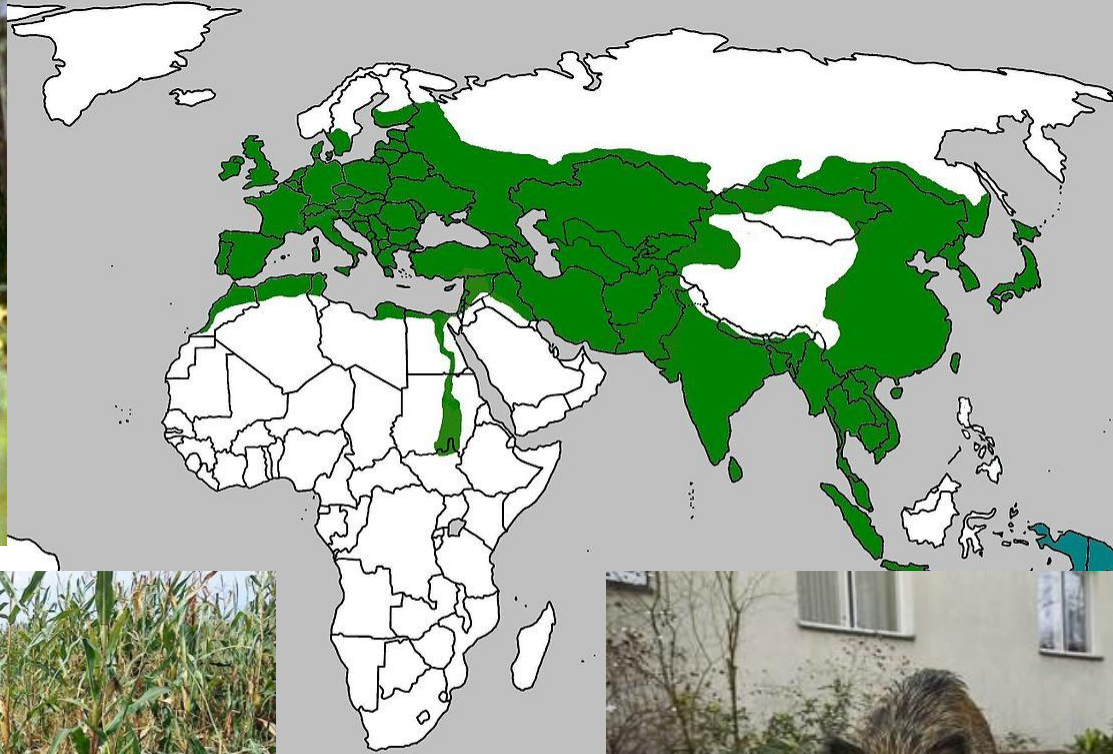
11th meeting (SGE ASF11)

• Warsaw, Poland • 24-25 September 2018 •

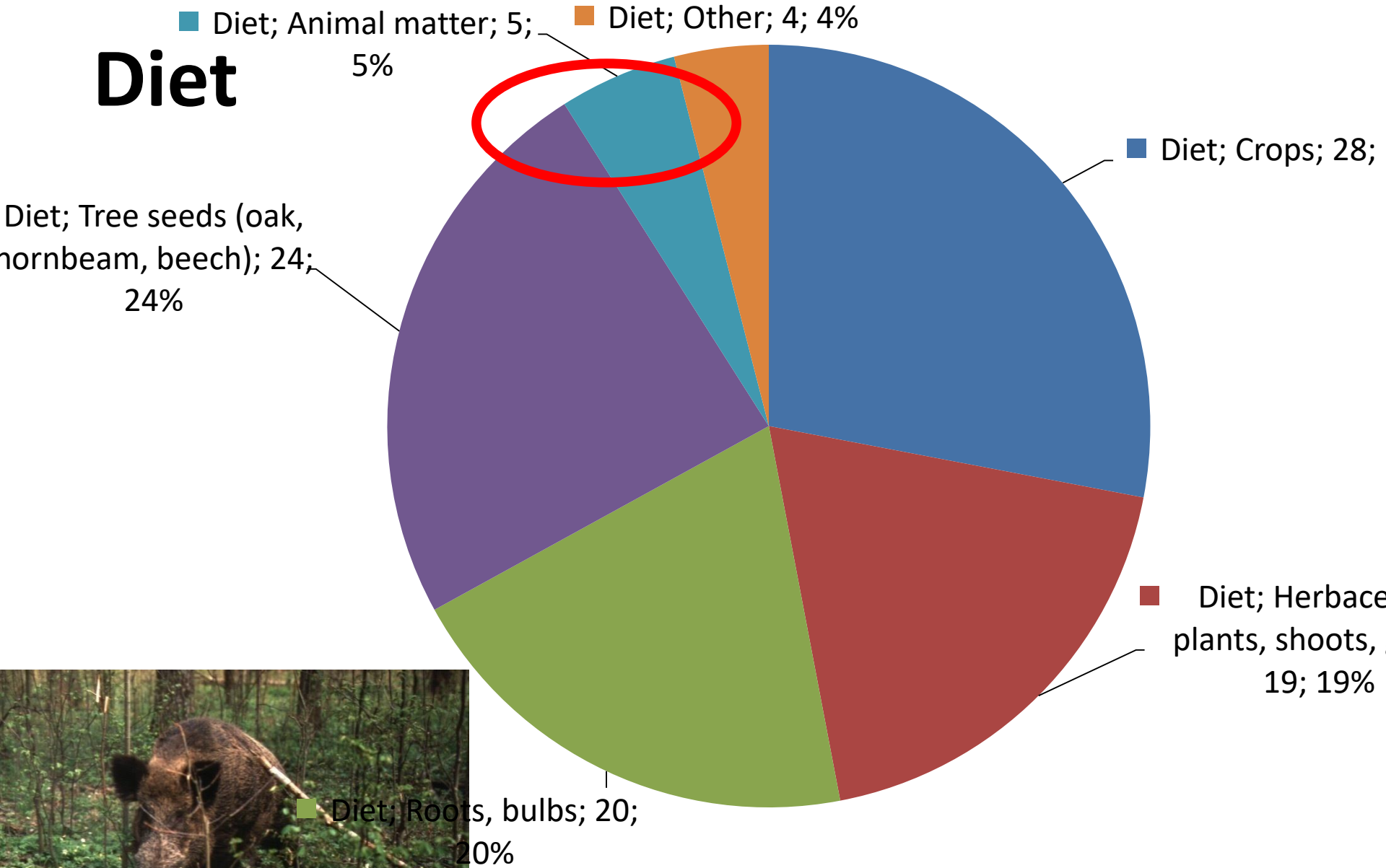
Geographic range



Geographic range



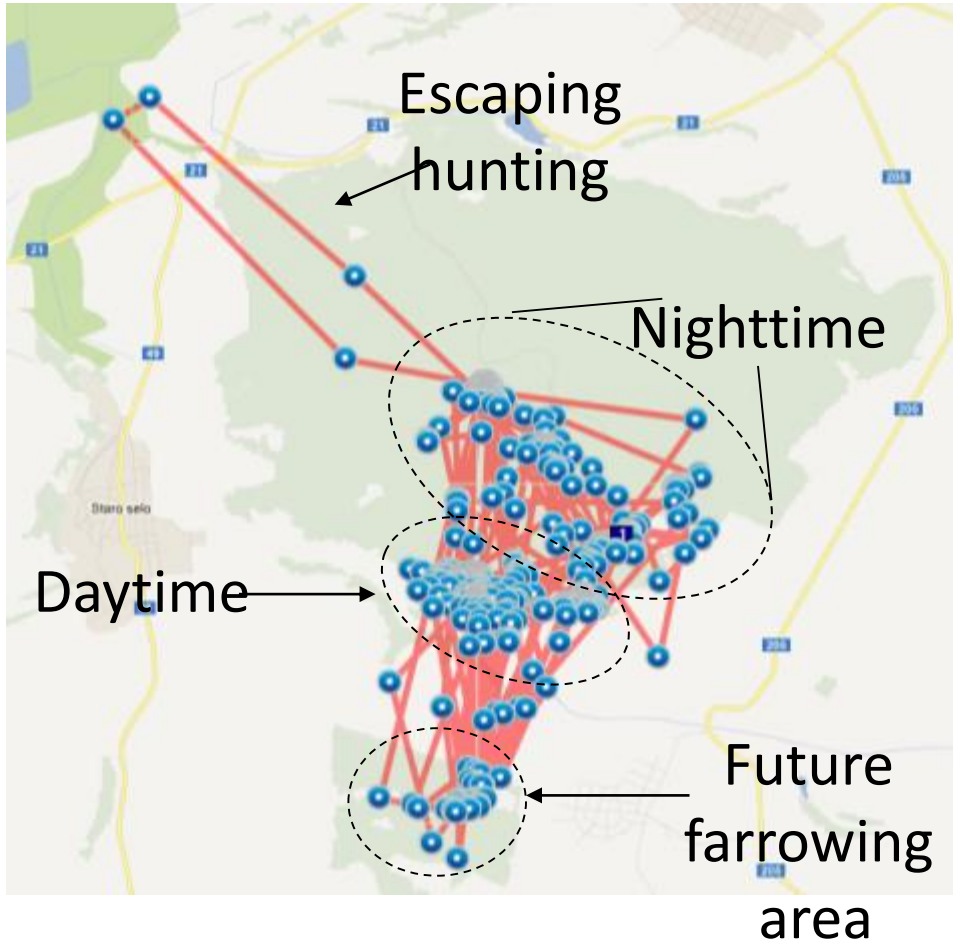
Diet



- Wild boar is opportunistic scavenger
- Important factor in ASF epidemiology!

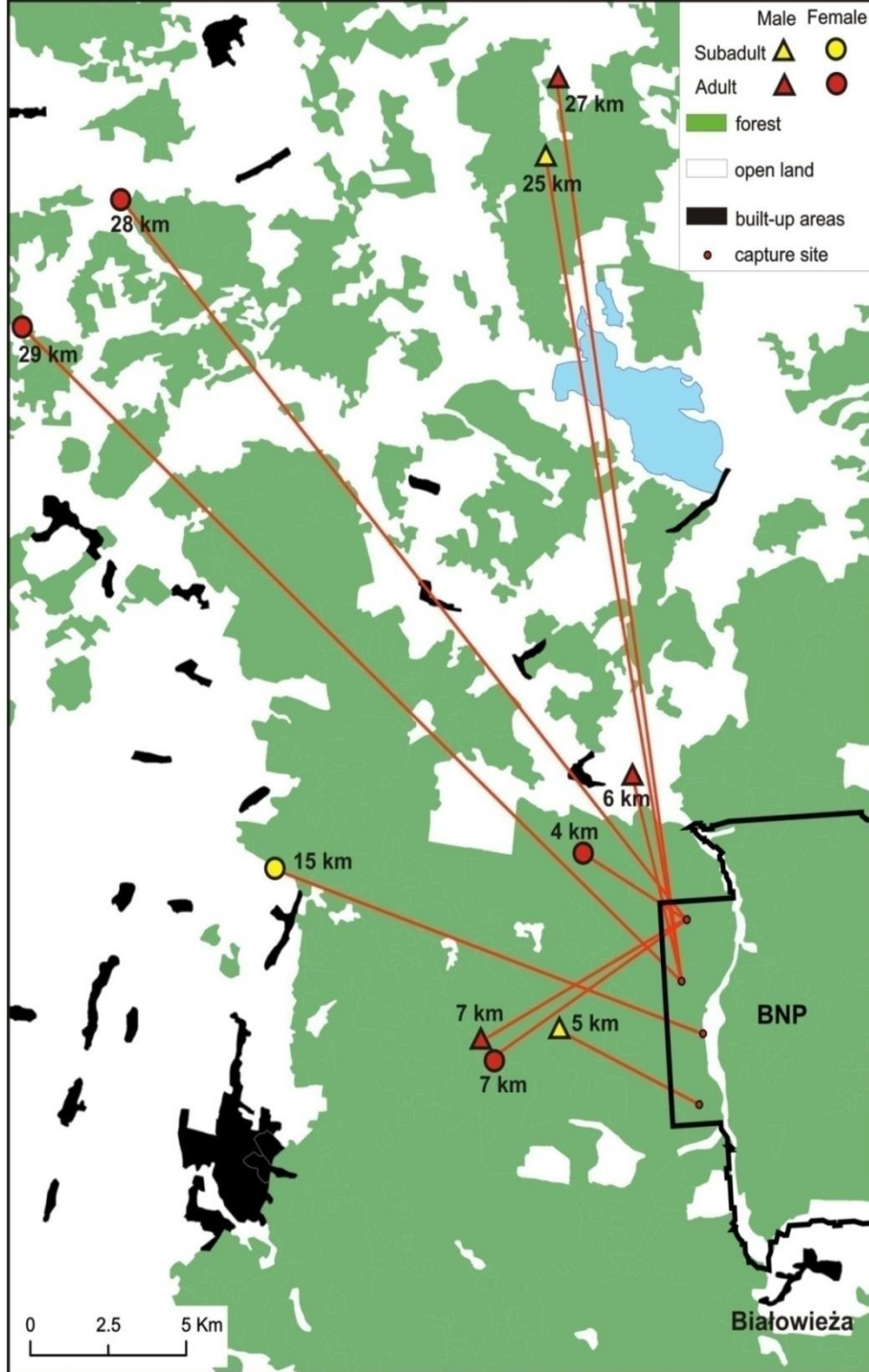


Movements



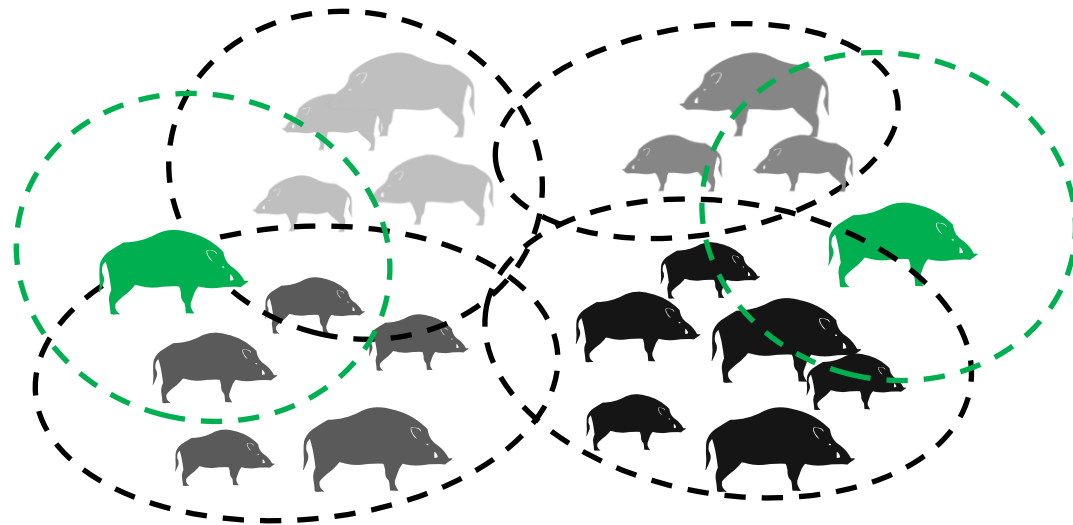
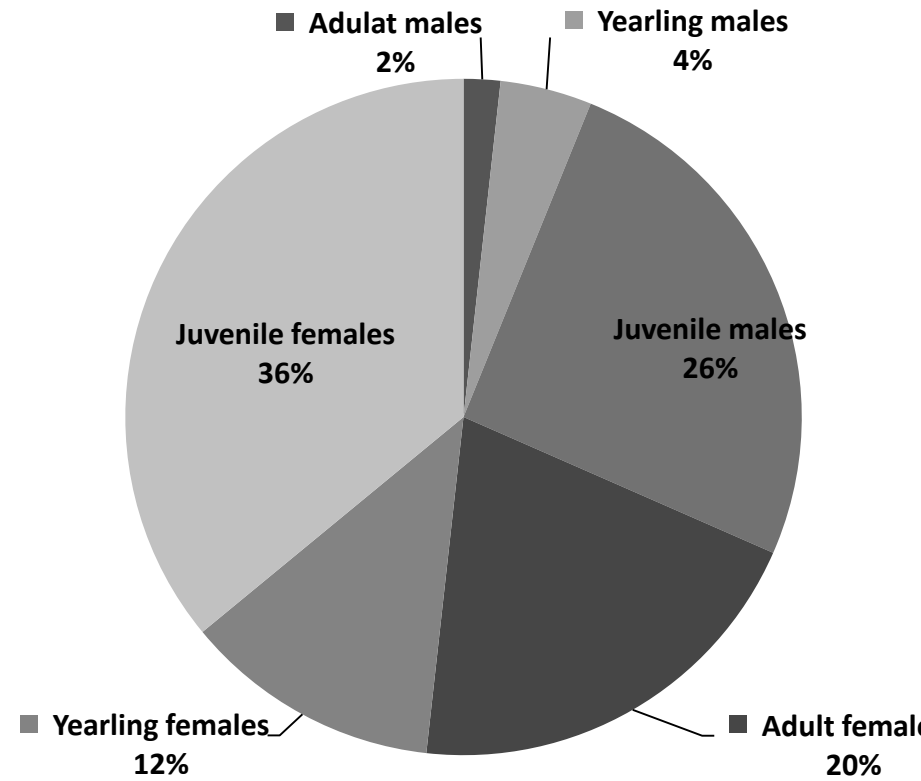
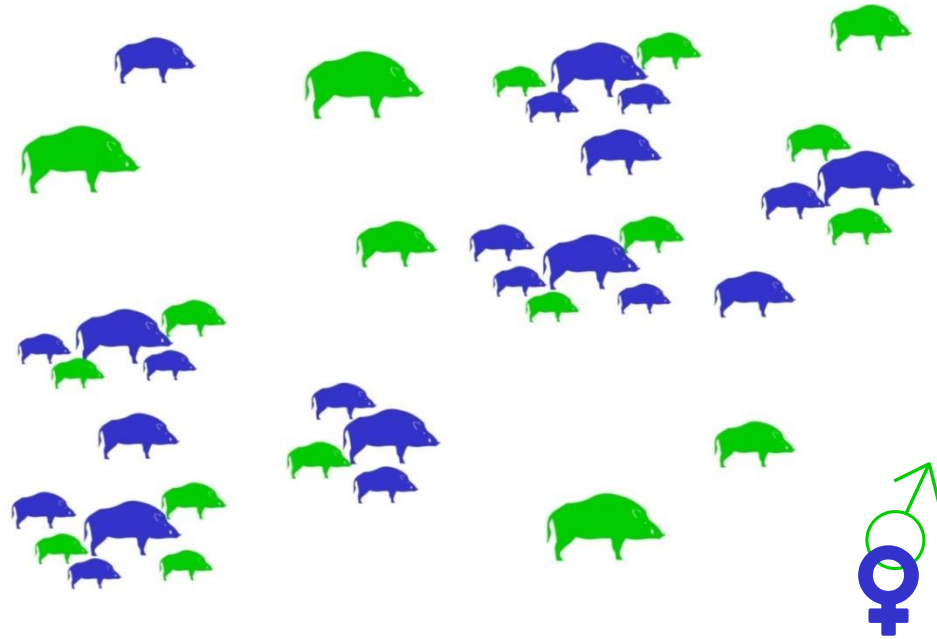
- WB normally small home ranges (5-8 km²)
- Mostly sedentary
- Disrupted by food availability or disturbance

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

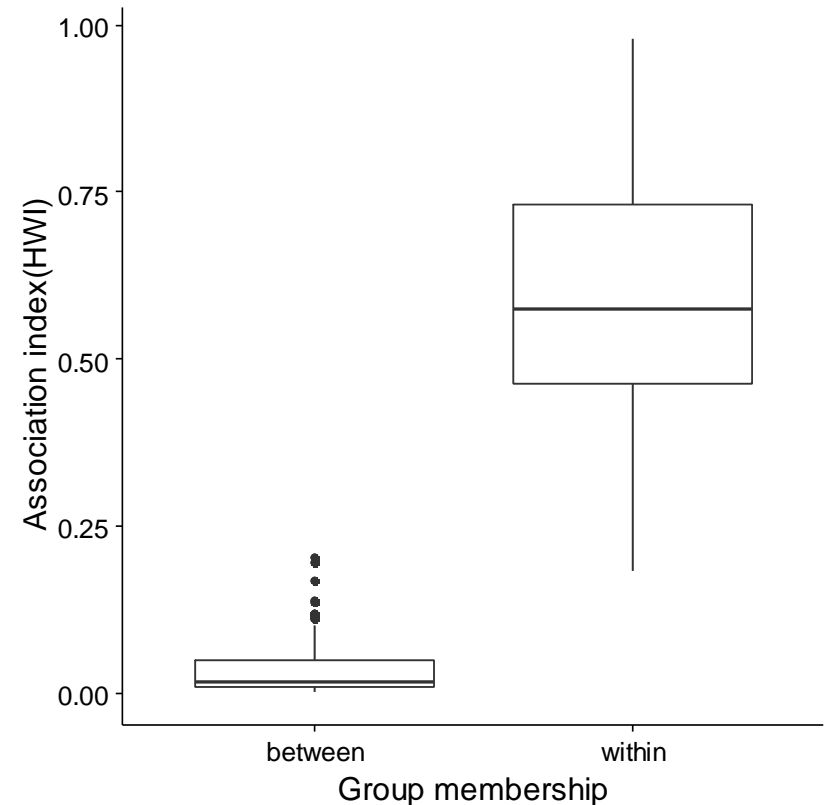
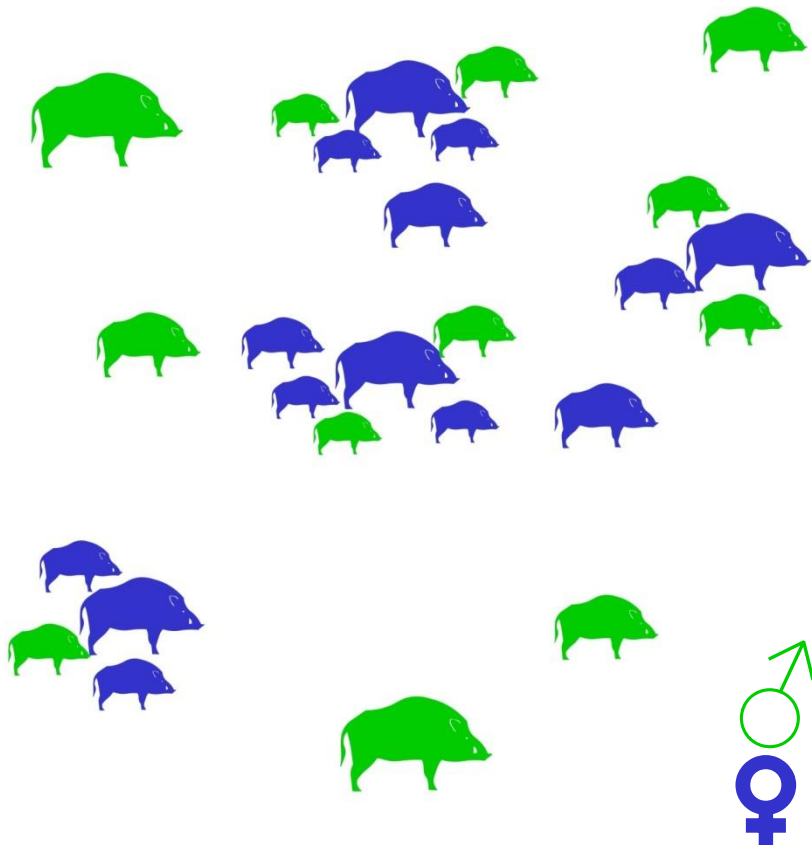


Long-distance movements (>20km) observed but **NOT** frequent

Social behaviour



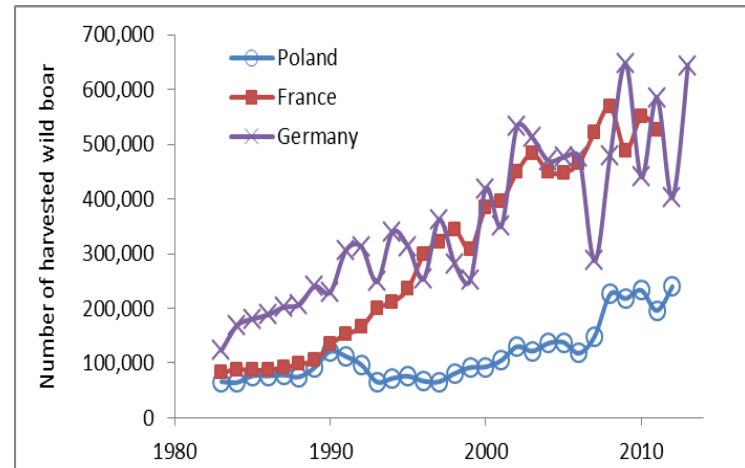
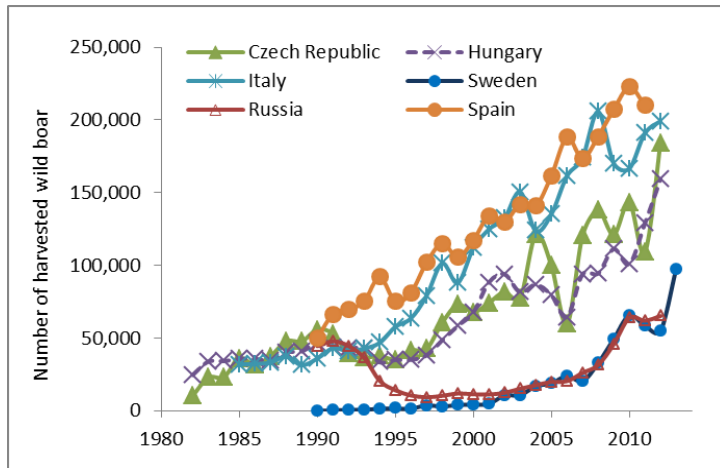
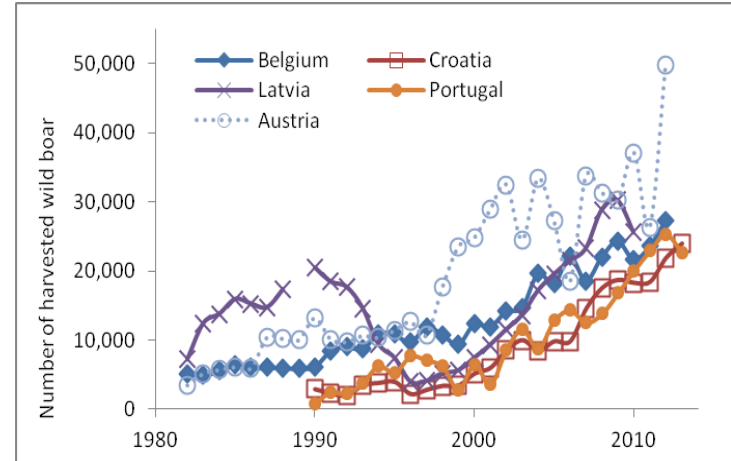
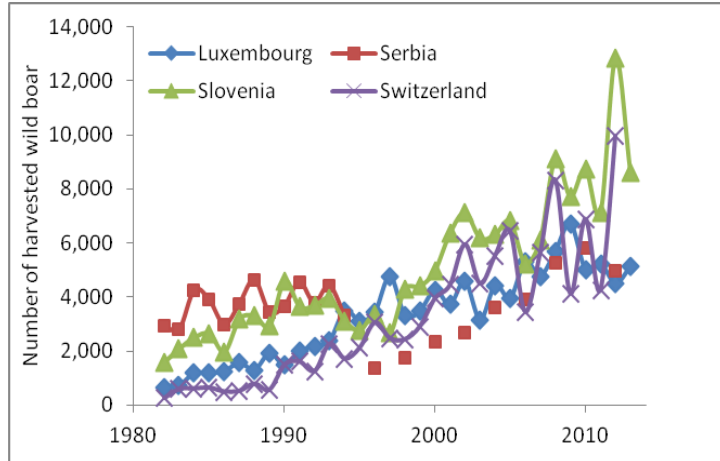
Individual contacts are strongly structured socially and spatially (contacts > 4km are sporadic)



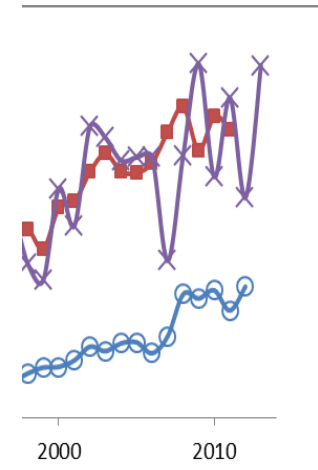
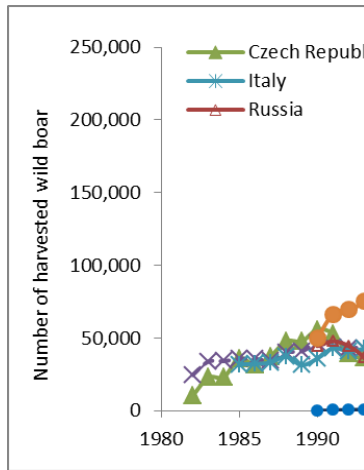
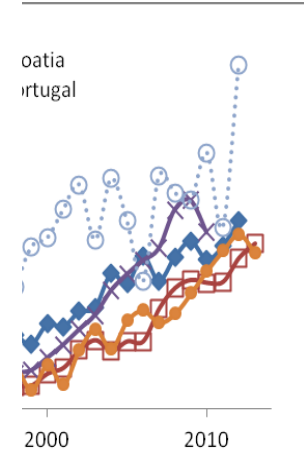
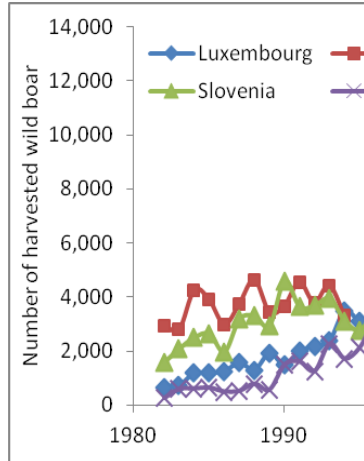
Annual cycle in the wild boar population



Population growth in the last decades

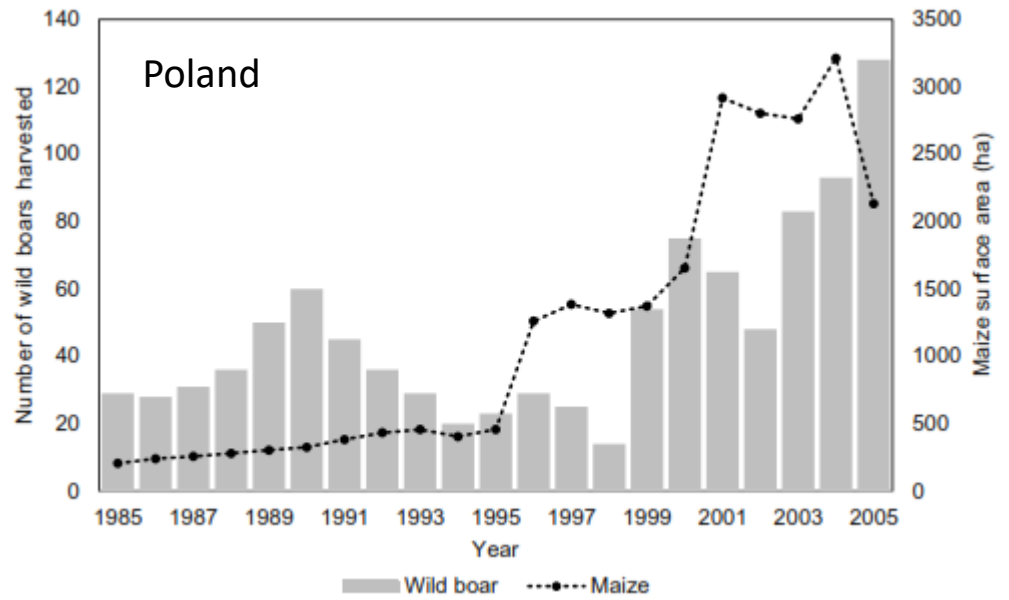


Population growth in the last decades

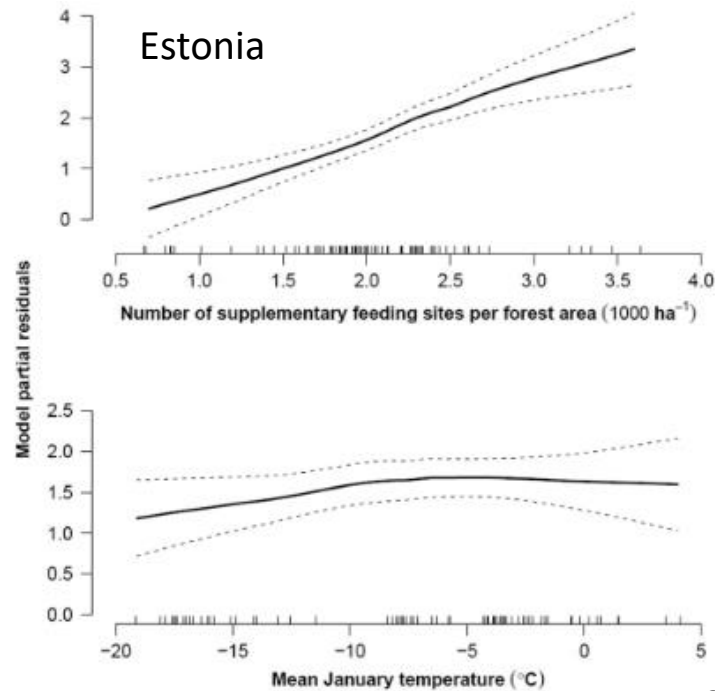


- milder winters
- more frequent mast seeding
- high reproductive potential
- opportunistic diet
- behavioral plasticity
- change in agricultural practises
- ineffective management

Food availability



Kopij and Panek, 2016, *Pol. J. Ecol.*



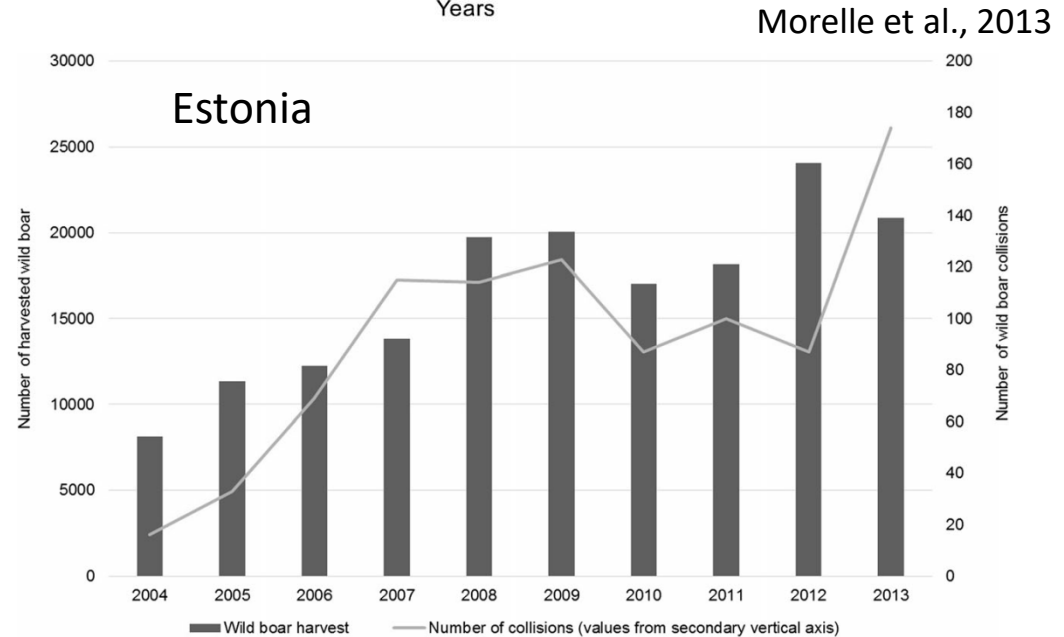
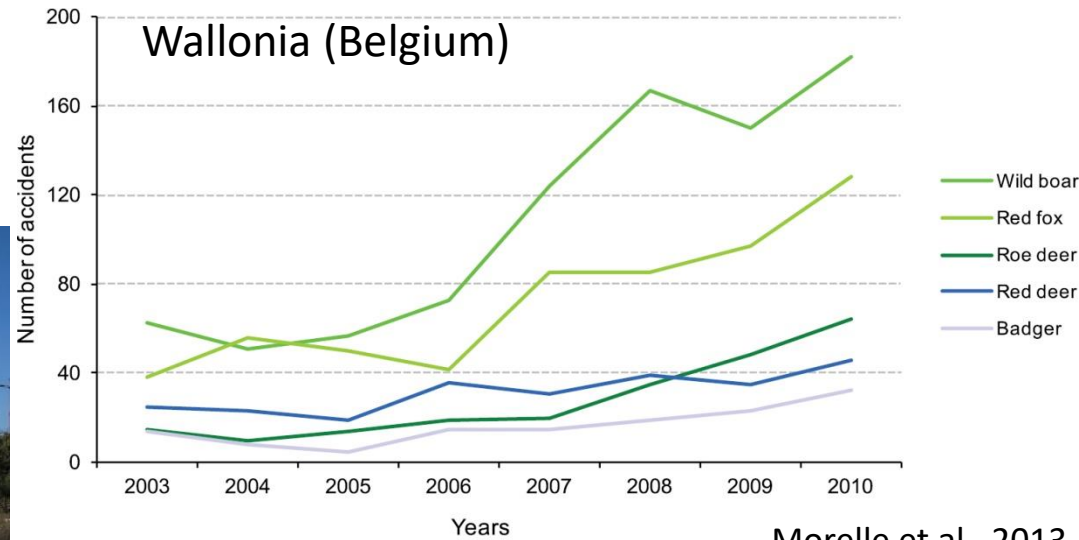
Oja et al. 2014, *Acta Theriologica*

Wild boar overabundance - crop damage

Poland: compensations to farmers total approx. 10 million €/year



Wild boar overabundance – vehicle collisions



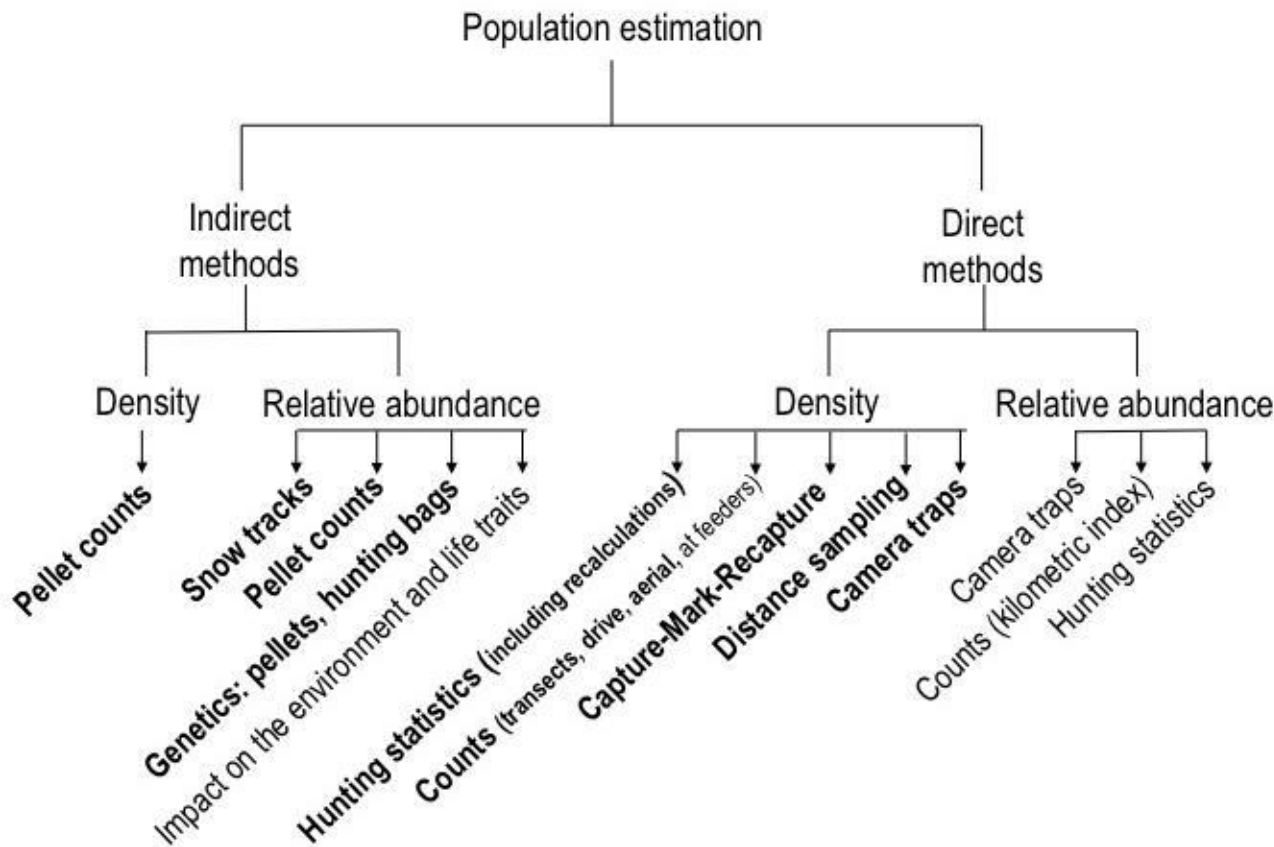
Wild boar overabundance –

risk of disease spread to wildlife, livestock, and people

- 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

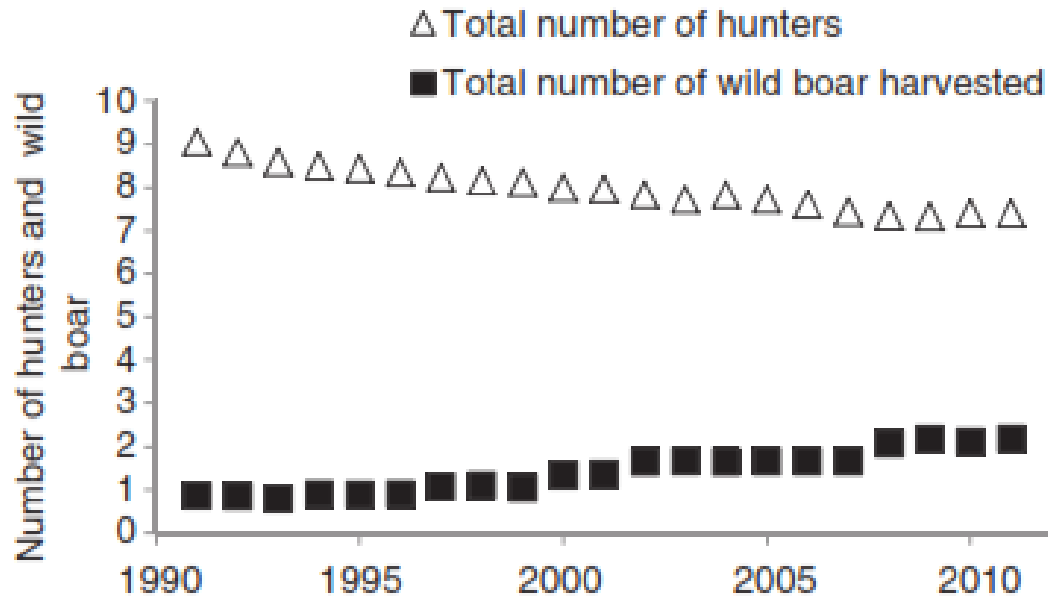
Challenges to management – estimating population numbers

- Difficult, if done at all
- Low accuracy
- Not standardized within/across countries



Challenges to management – control of population size

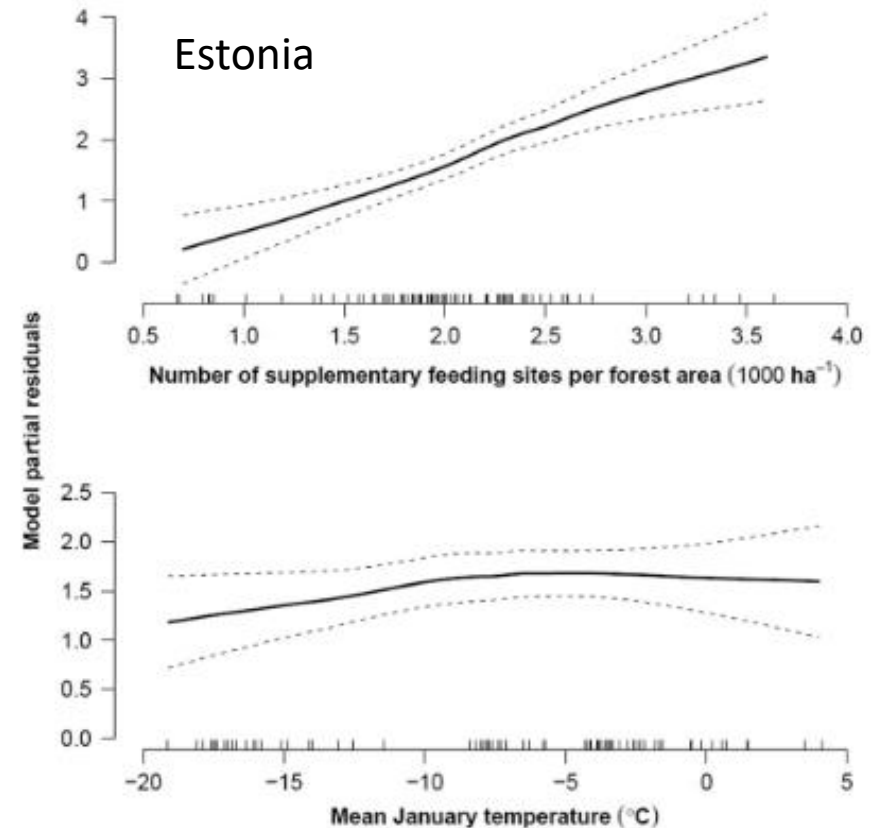
Hunting – is it enough?



Challenges to management

Supplementary feeding

- boosts population growth
- unnatural aggregations



Challenges to management – population size and disease control

Hunting methods

Driven hunt:

- effective
- disturbing
- non-selective
- 'dirty'



Single hunt:

- time-intensive
- silent
- selective
- 'clean'



Intensive hunting and wild boar movements

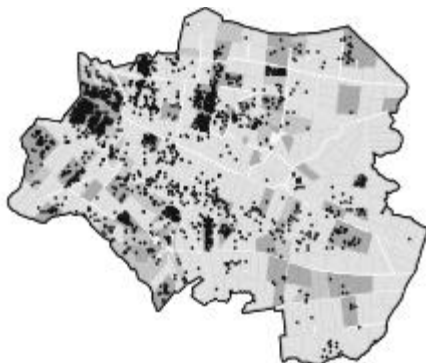
Before hunting season



During hunting season

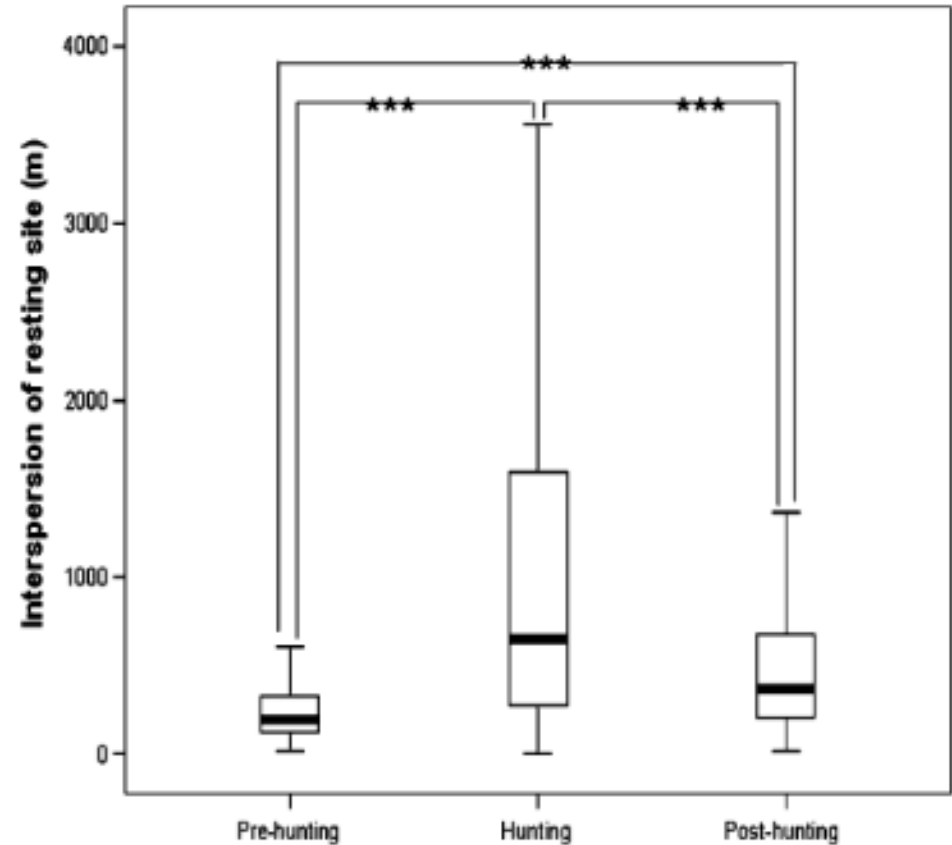


After hunting season



(Said et al. 2012, Eur J Wildl Res)

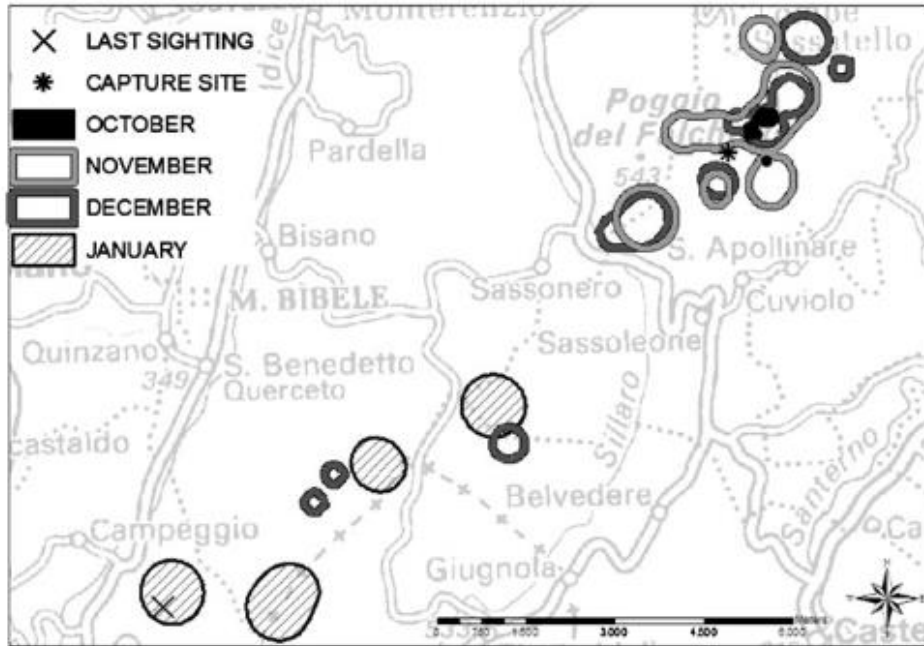
Drive hunts: dispersion of daily resting sites



(Scillitani et al. 2010, Eur J Wildl Res)

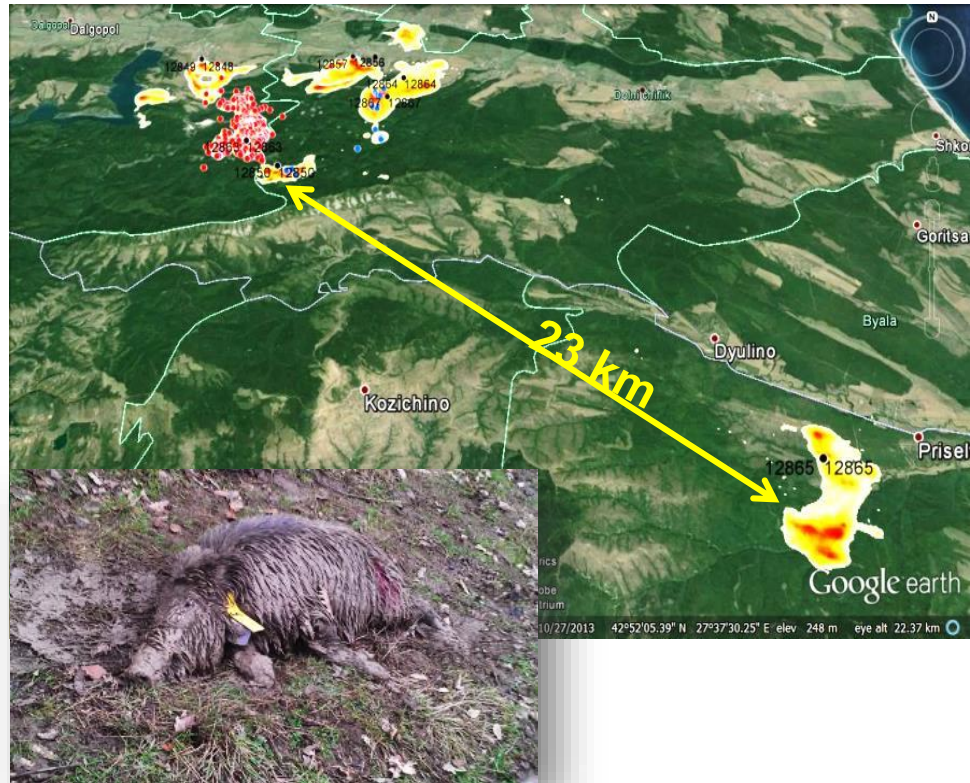
Intensive hunting and wild boar movements

- Drive hunting with dogs: increase of range size during the hunting season
- Home range displacements during the hunting season (up to 15 km)
- Long-distance movements induced by hunting



Eur J Wildl Res (2010) 56:307–318
DOI 10.1007/s10344-009-0314-z

ORIGINAL PAPER



Do intensive drive hunts affect wild boar (*Sus scrofa*) spatial behaviour in Italy? Some evidences and management implications

Laura Scillitani · Andrea Monaco · Silvano Toso



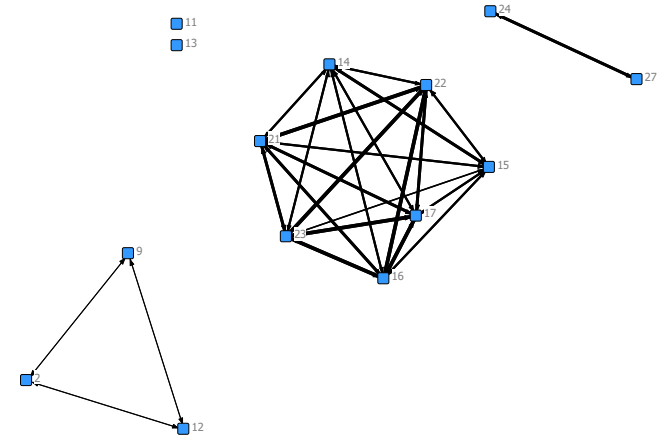
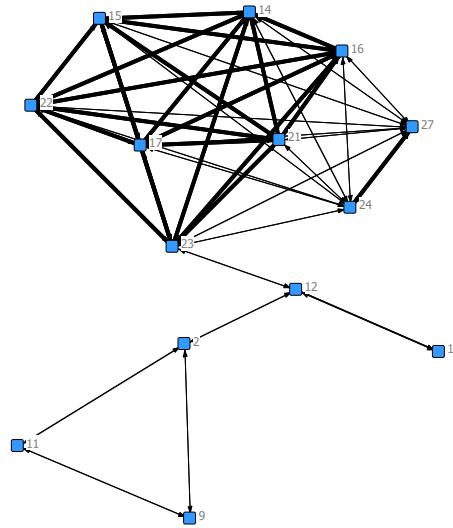


Intensive hunting and contact rates

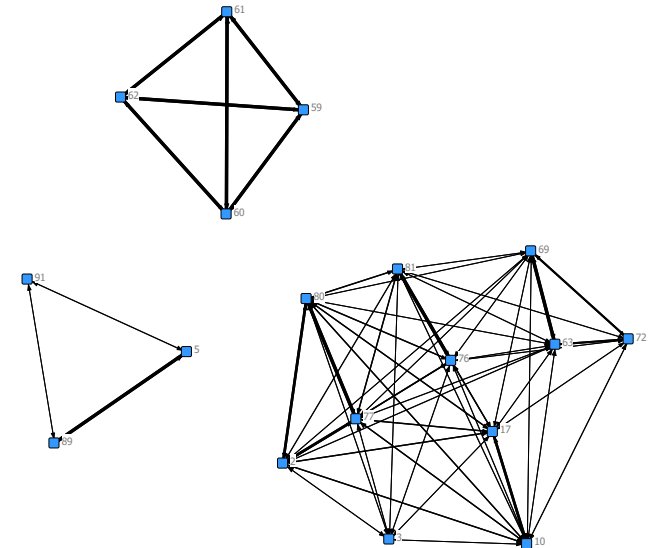
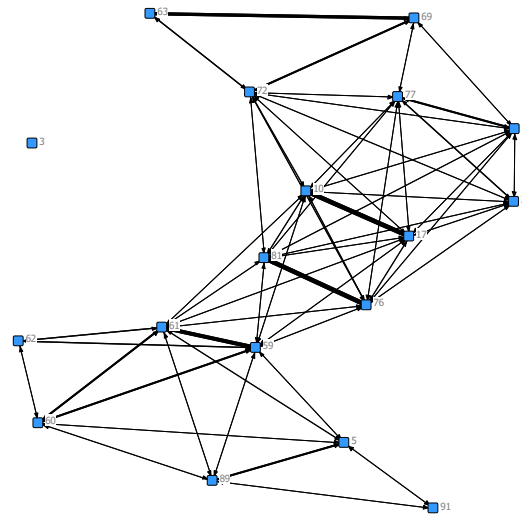
hunting season

non-hunting season

ITALY



GERMANY



Challenges to management – disease control

Hunting biosecurity



Challenges to management – disease control

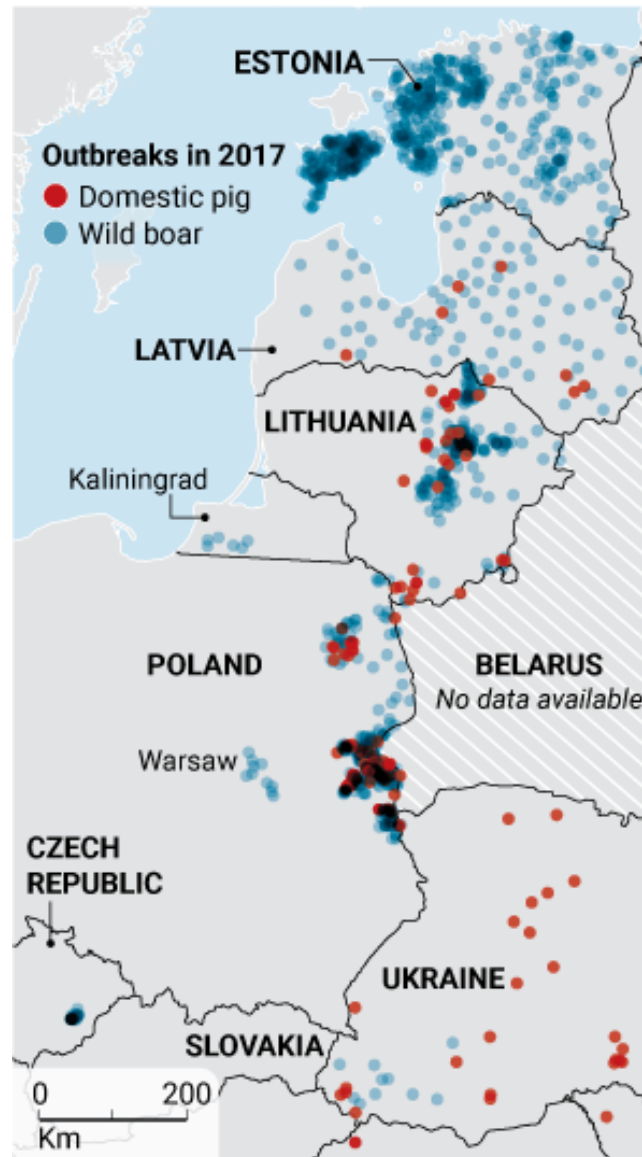
Offal and carcass



Some conclusions for management

- **Wild boar populations are growing, with severe socio-economic impacts**
 - **We can control this growth only in part (hunting, supplementary feeding, farming)**
 - **Scientific evidence is key for effective management**
 - **Diseases conscious management (methods, supplementary feeding, biosecurity)**
 - **Collective effort and transboundary actions are needed for current challenges**
- 
- A young wild boar piglet is the central focus of the image, standing in a field of tall, golden-brown grass. The piglet has dark brown, shaggy fur and is looking towards the camera. The background is a soft-focus field of similar grass, creating a natural and somewhat somber atmosphere. The overall image serves as a background for the text, which is overlaid on a semi-transparent dark band at the top.

ASF in wild boar – diverse situation in Europe



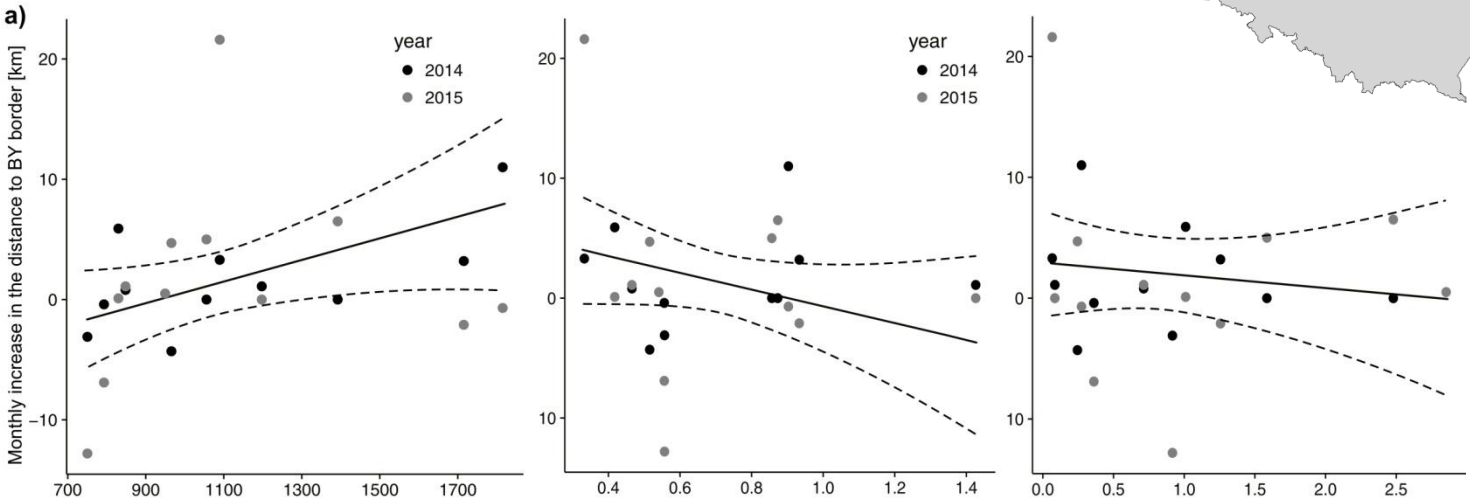
What can shape ASF occurrence in wild boar?

- wild boar movements and contacts
- population density
- landscape structure (fragmentation, barriers)
- anthropogenic factors (roads, farms, biosecurity)
- distance from infection source (outbreak area)

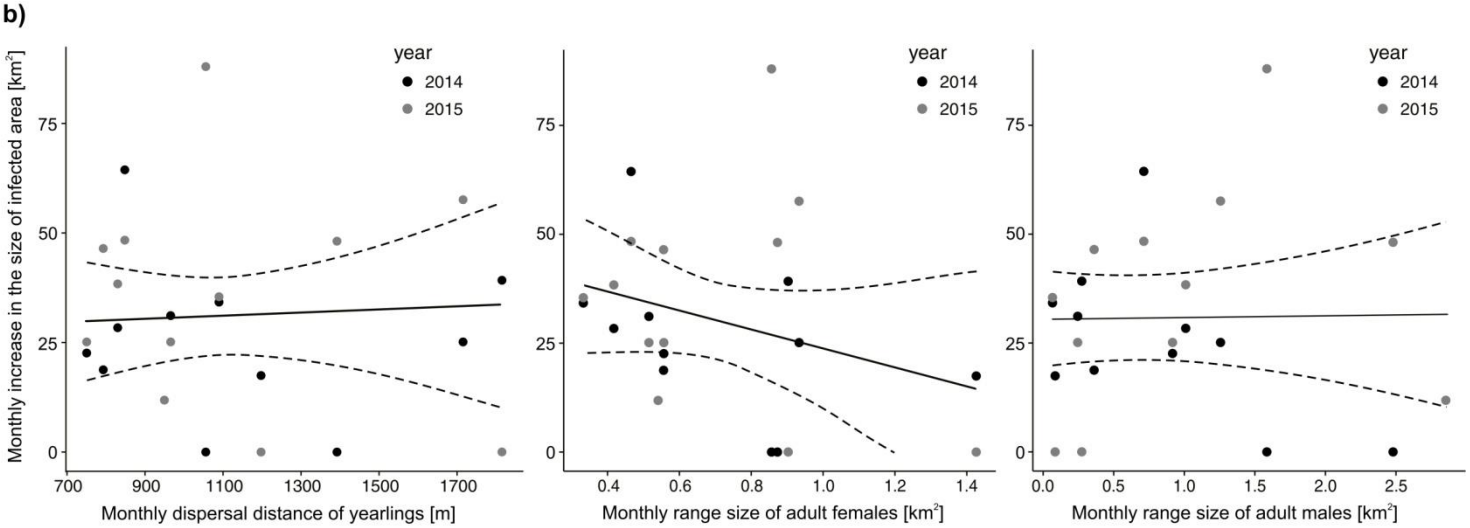
Wild boar movements had no effect on ASF spread in NE Poland



Spatial spread of ASF frontline



Size of ASF infected area

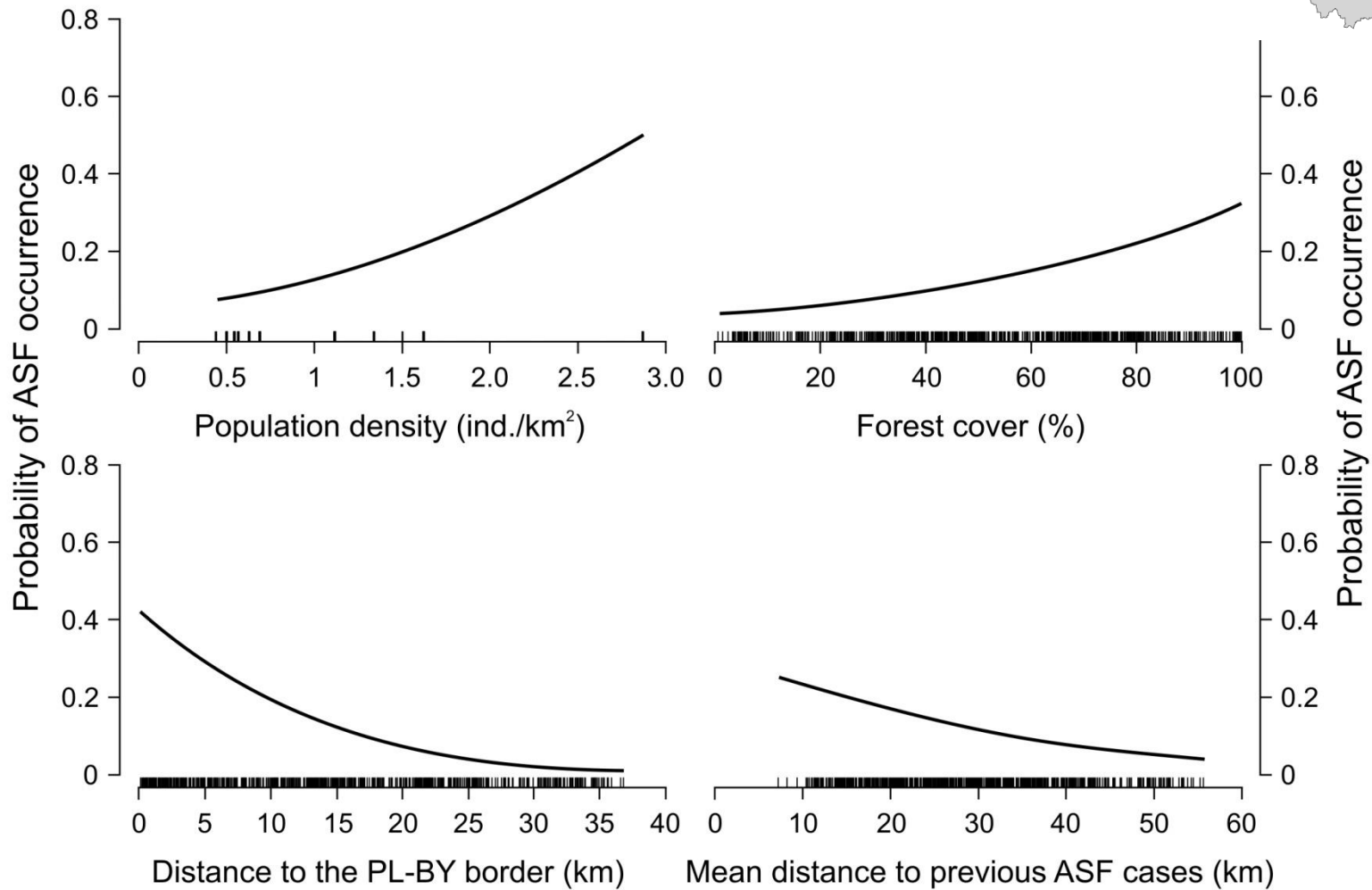


Dispersal distance

Female home range size

Male home range size

Factors shaping ASF occurrence in wild boar in NE Poland



What can shape ASF occurrence in wild boar?

- NO** • wild boar movements
- YES** • population density
- YES** • landscape structure (fragmentation, barriers)
- ???** • anthropogenic factors (roads, farms, biosecurity)
- YES** • distance from infection source (outbreak area)

Conclusions for ASF control in wild boar

- Management actions altering natural behaviour of wild boar (intensive culling, supplementary feeding) may stimulate ASF spread
- Disease control efforts (culling, carcass search) should be focused on high-density populations where chances of detecting and eliminating ASF-positive wild boar are higher
- Large forest complexes represent areas of the highest risk of ASF occurrence. Distribution and connectivity of suitable habitats over the landscape can be used to prioritize disease-management actions.
- The intensity of control measures should decrease with distance from the infected area to match the observed spatial pattern of ASF occurrence probability

Thank you!

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