



Sustained technical assistance mission (STM) on African Swine Fever in Greece

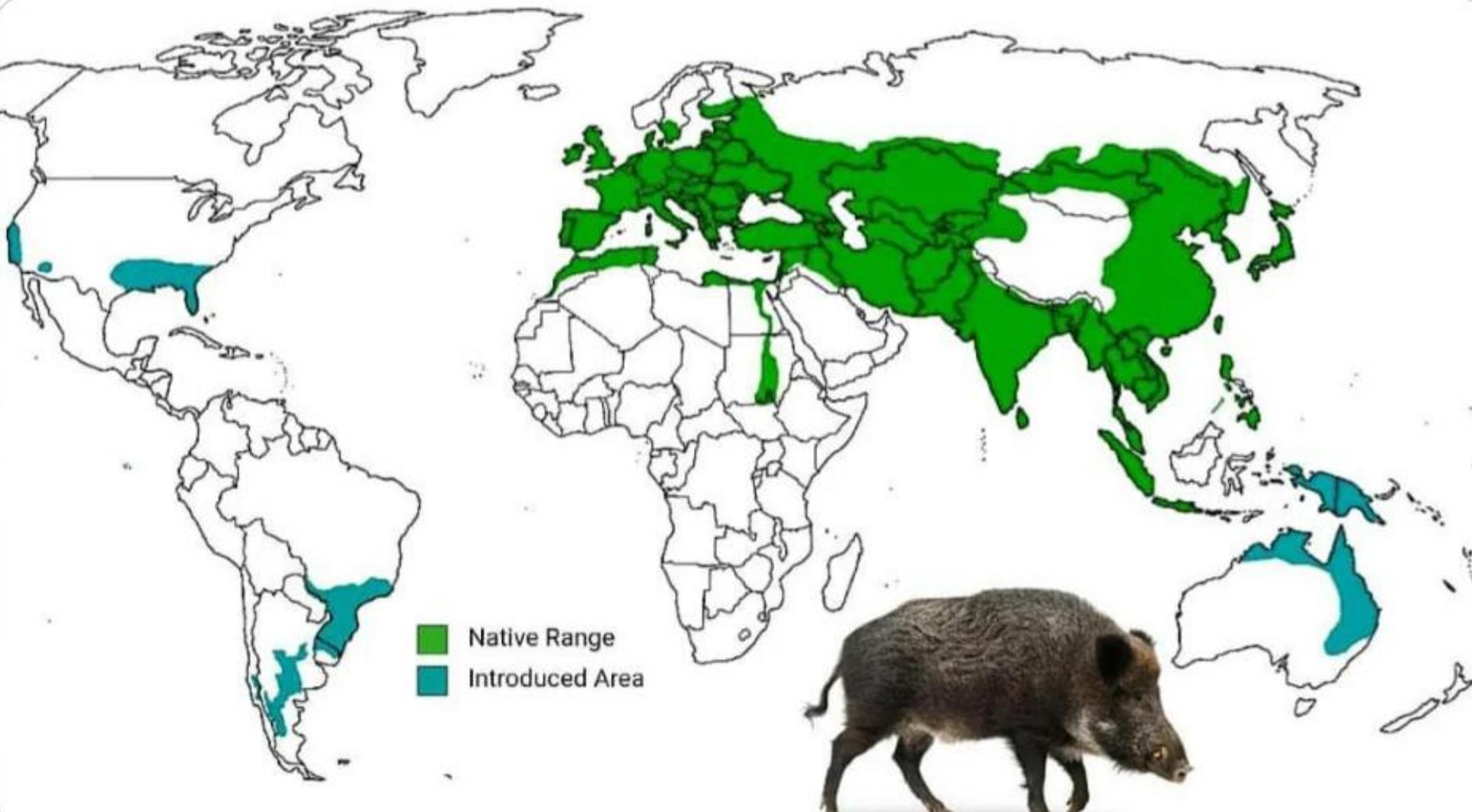
Wild boar ecology

STM experts

11 March 2024, Greece, Serres



European
Commission



Food safety

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



Currently distributed across almost all of mainland Europe, with the exception of some northern areas in both Scandinavia and European Russia and the southernmost parts of Greece.

Human intervention has spread its distribution further, making the species one of the widest-ranging mammals in the world, as well as the most widely spread suiform.

As of 1990, up to 16 subspecies are recognized, which are divided into four regional groupings based on skull height and lacrimal bone length.

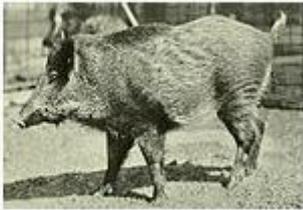


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Wild boar

**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.
meridionalis*



**Formosan
boar**

S. s. taivanus



**Anatolian
boar**

S. s. libycus



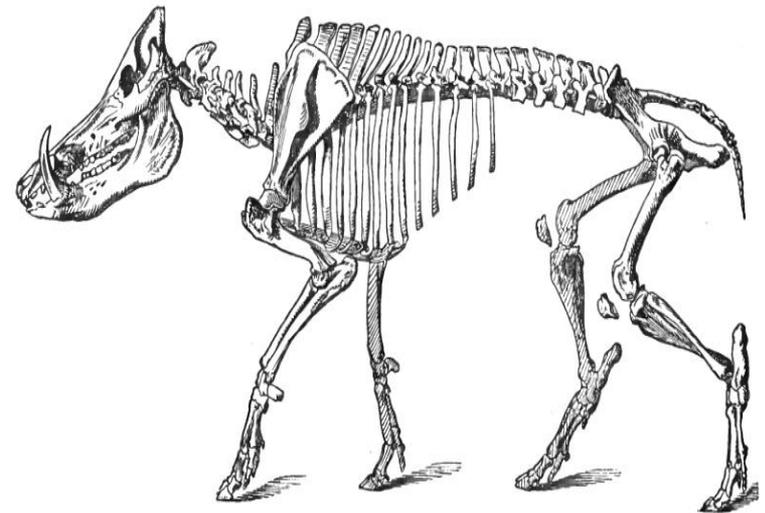
The biology of wild boar

The animal's head is very large, taking up to one third of the body's entire length.

The animal can run at a maximum speed of 40 km/h and jump at a height of 140–150 cm.

In most of Europe, males' average weight is 75–100 kg, whereas females' average weight is 60–80 kg.

In Western and Central Europe, the largest males weigh 200 kg and females 120 kg.



SKELETON OF WILD BOAR.



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

- 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.





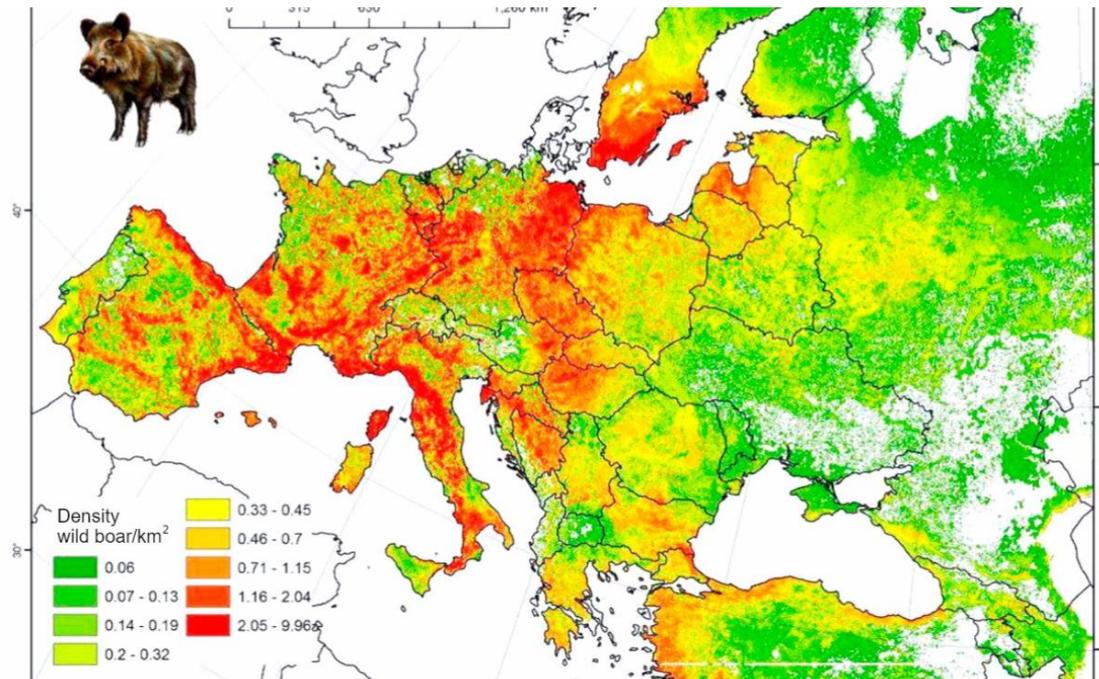
Diseases

- 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



Population size in Europe

Wild Boar – 4,500,000
(Putman, 2011; EMPRES data);
Roe Deer – 9,500,000
(Burbaitè & Csanyi, 2009);
Red Deer – 1,700,000
(Burbaitè & Csanyi, 2010).



Wild boar density - how to estimate??



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

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).

Density dependent spread

The number of NEW INFECTED wild boar is proportional to the wild boar population size;

The duration of the epidemic is proportional to the wild boar population size.

Factors affecting population size

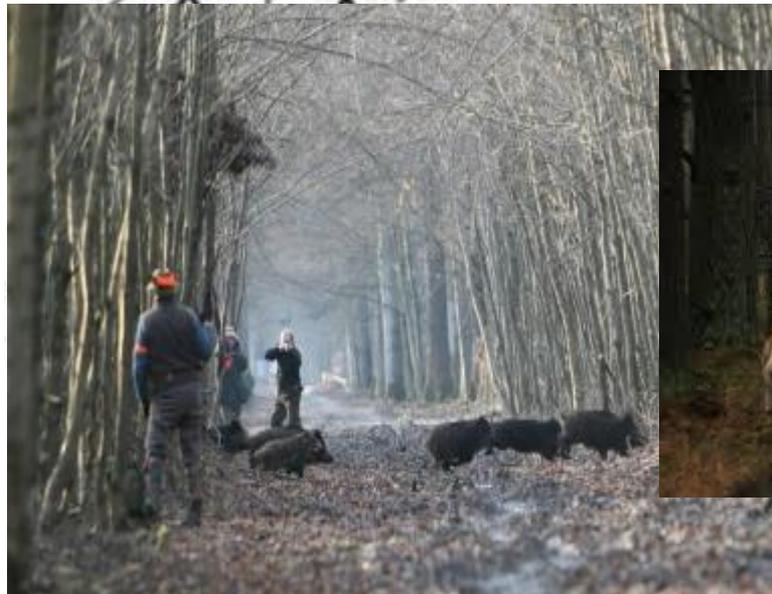
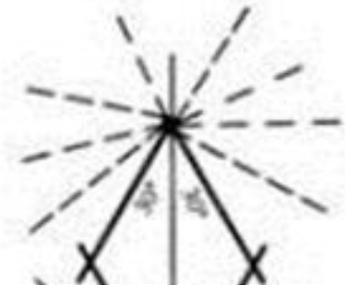
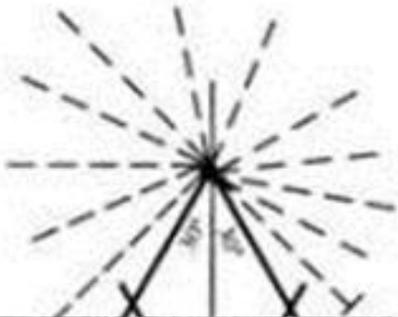
- Natural mortality – up to **20-30%** (mostly piglets)
- **ASF, CSF or other epidemics...**
- Hunting:
 - Driven hunting (most efficient **way** to hunt wild boar)
 - Targeted (selective: sub-adult and adult female) hunting (most efficient **way** to reduce the population)
- Supplementary feeding – helps to sustain and increase the population



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Hunting methods

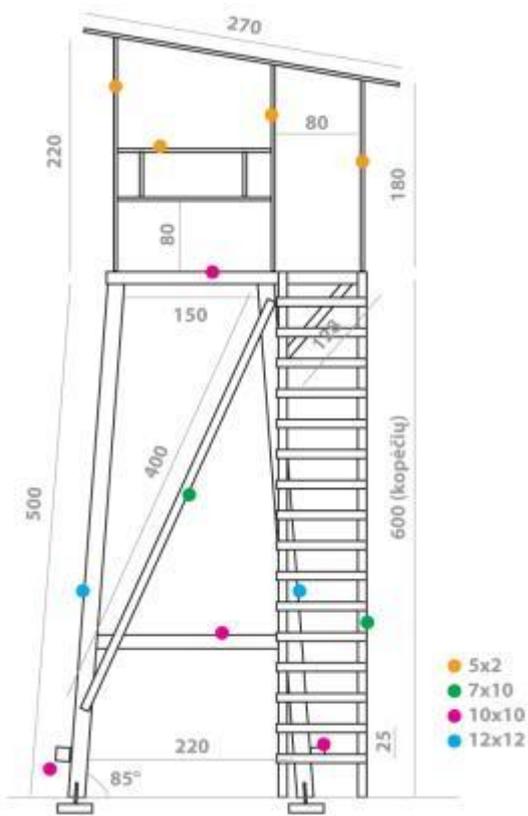
Driven hunt



Food safety

Hunting methods

Individual hunt



How far can wild boar move?

Tools available



Traps



Traps



Traps



Traps

reolink

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Ketvirta

olink

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Ket

Sedation of trapped animals



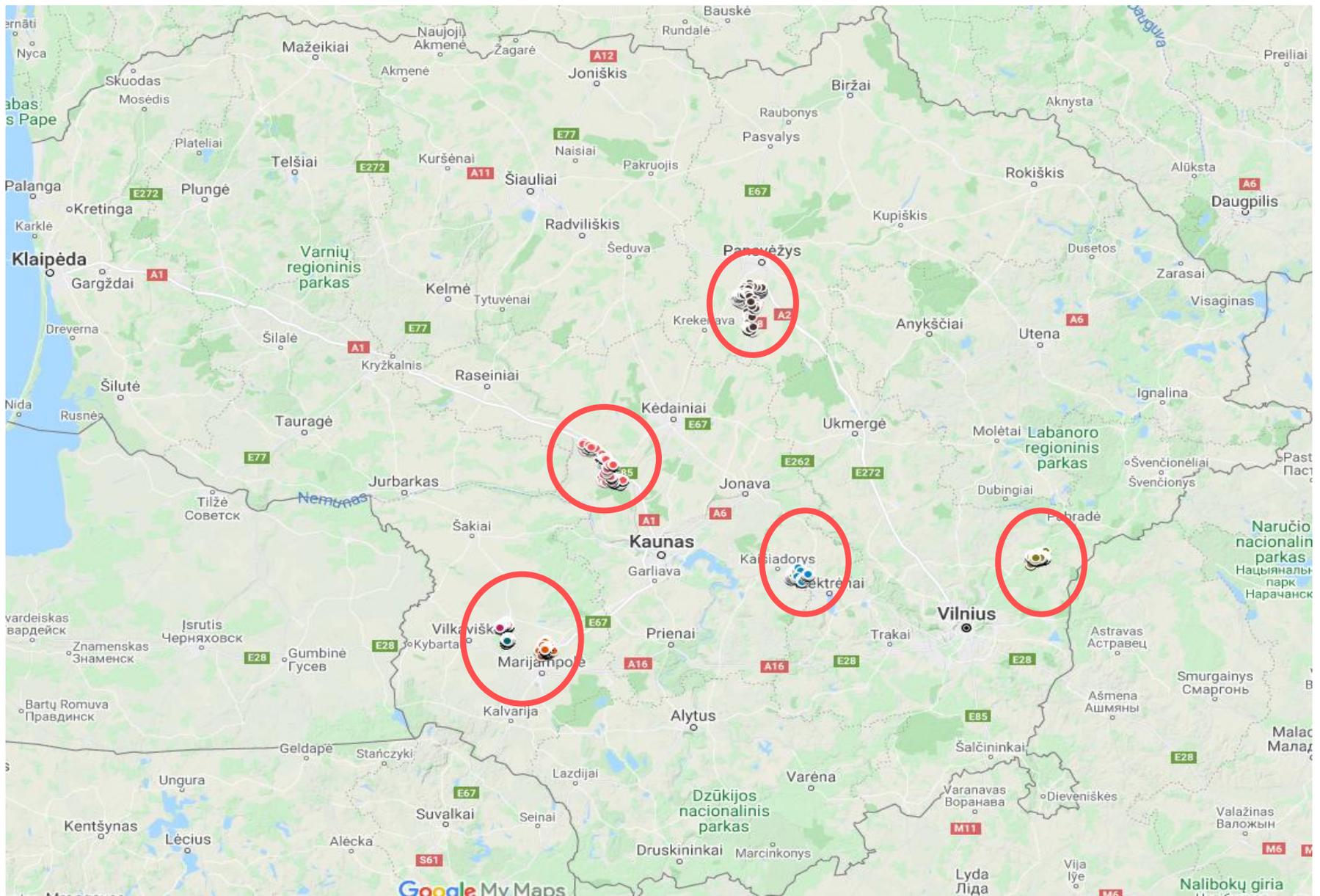
Collars



Ear marks for visibility with information, to whom to report hunted/found dead animal



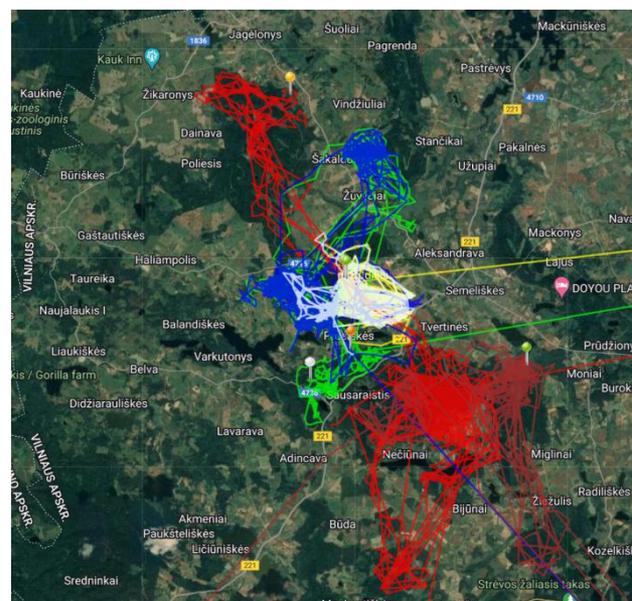
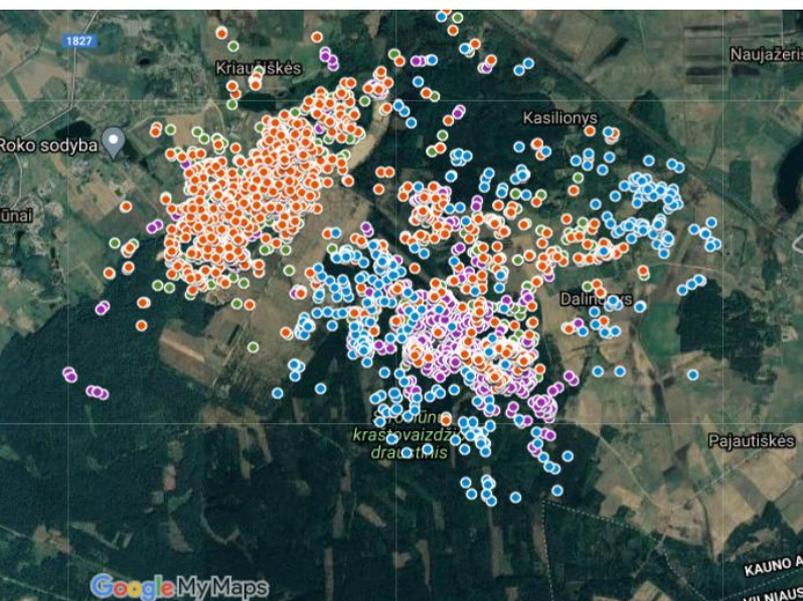
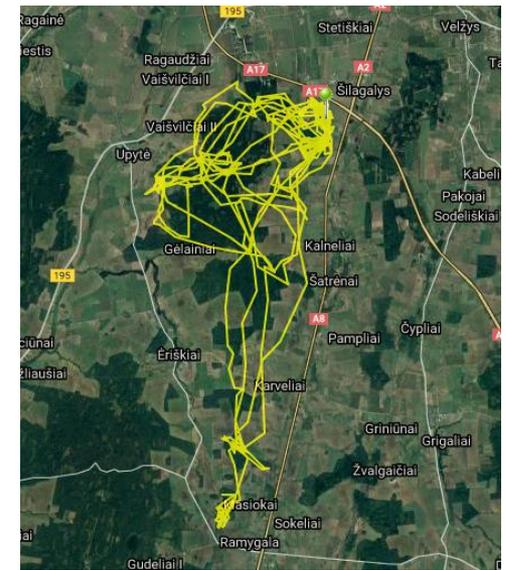
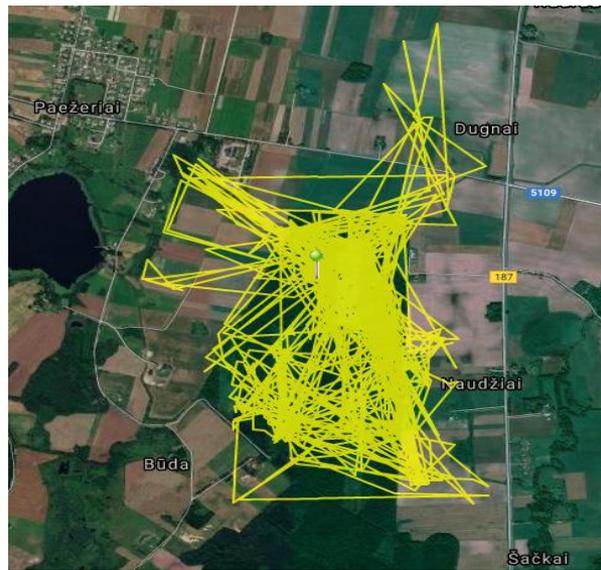
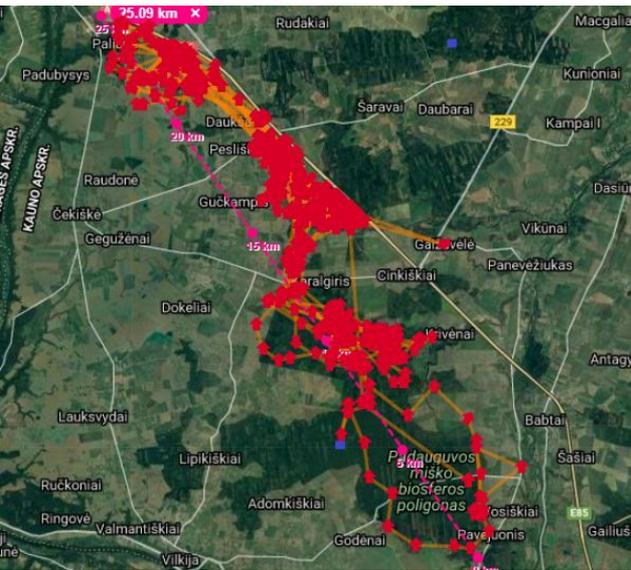
Trapping sites



Observation and data collection



Wild boar movement



Average home range – 16,2 sq km

Fertility and fecundity of female wild boars according to age

Age (months)	% fertility	Av. fetuses
7-12	25	3,4
13-18	42	4,2
19-24	58	5,1
25-36	52	5,1
Over 36	54	4,8

Fertility and fecundity of female wild boars according to weight

Weight (kg)	% fertility	Av. fetuses
0-34	0	0
35-45	30	3,8
45-60	52	4,8
61-80	78	6,1
Over 80	85	5,7

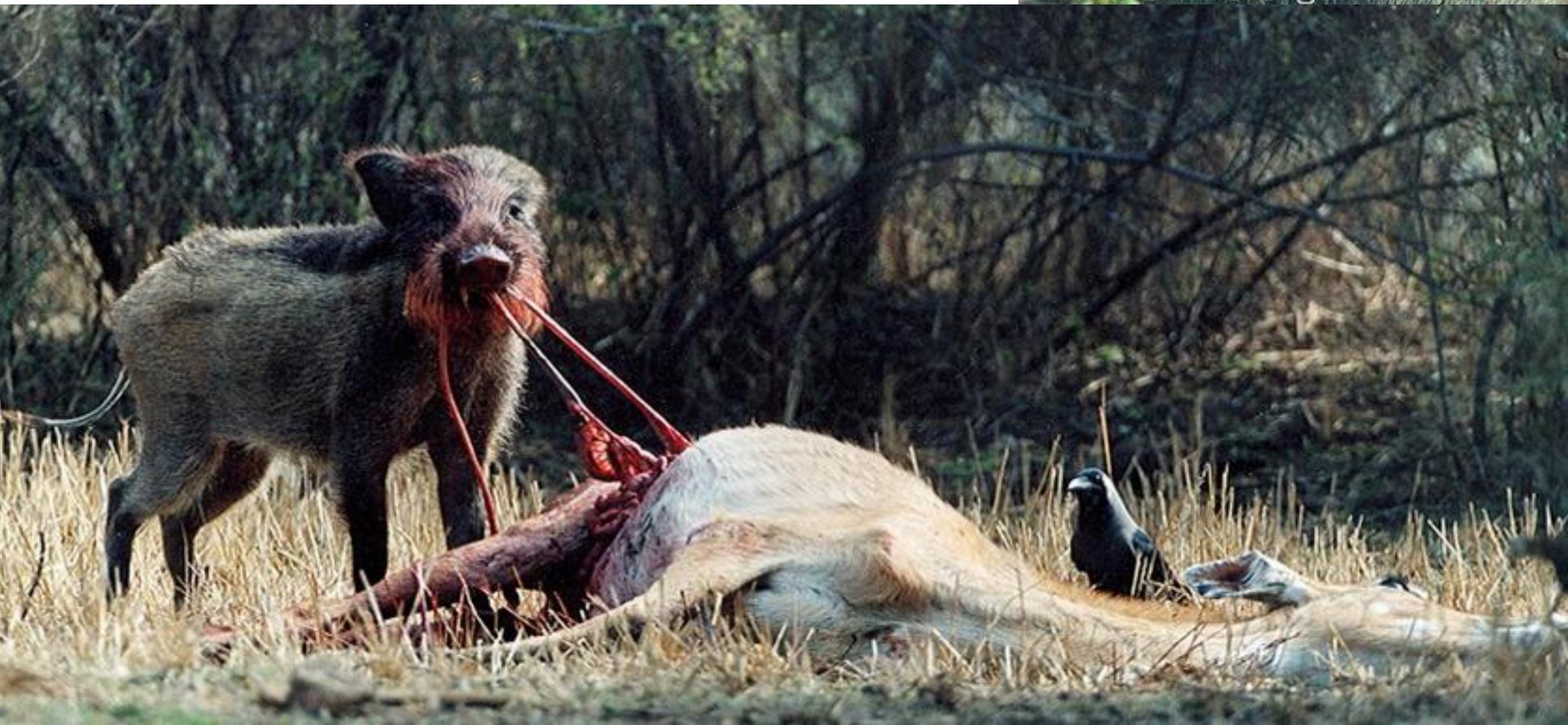


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Diet

The wild boar is a highly versatile omnivore, whose diversity in choice of food rivals that of humans.

ARKIVE
www.arkive.org







Field trials

Field trials with the cadavers of domestic pigs and wild boars have been performed trying to understand the possible ways of the virus transmission from the dead animal to live animal in the wild boar population.

Field trials

- Find out if wild boar will eat pig / wild boar cadaver;
- The understand the possible way of the virus transmission from the dead to live animal.





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DOGS



BIRDS



WILD BOARS

Visiting, but not eating



**FOXES,
RACCOON
DOGS**





Who's eating the wild boar cadaver?

The contacts of wild boars with the cadavers are rather seldom but potentially sufficient to transmit ASF.





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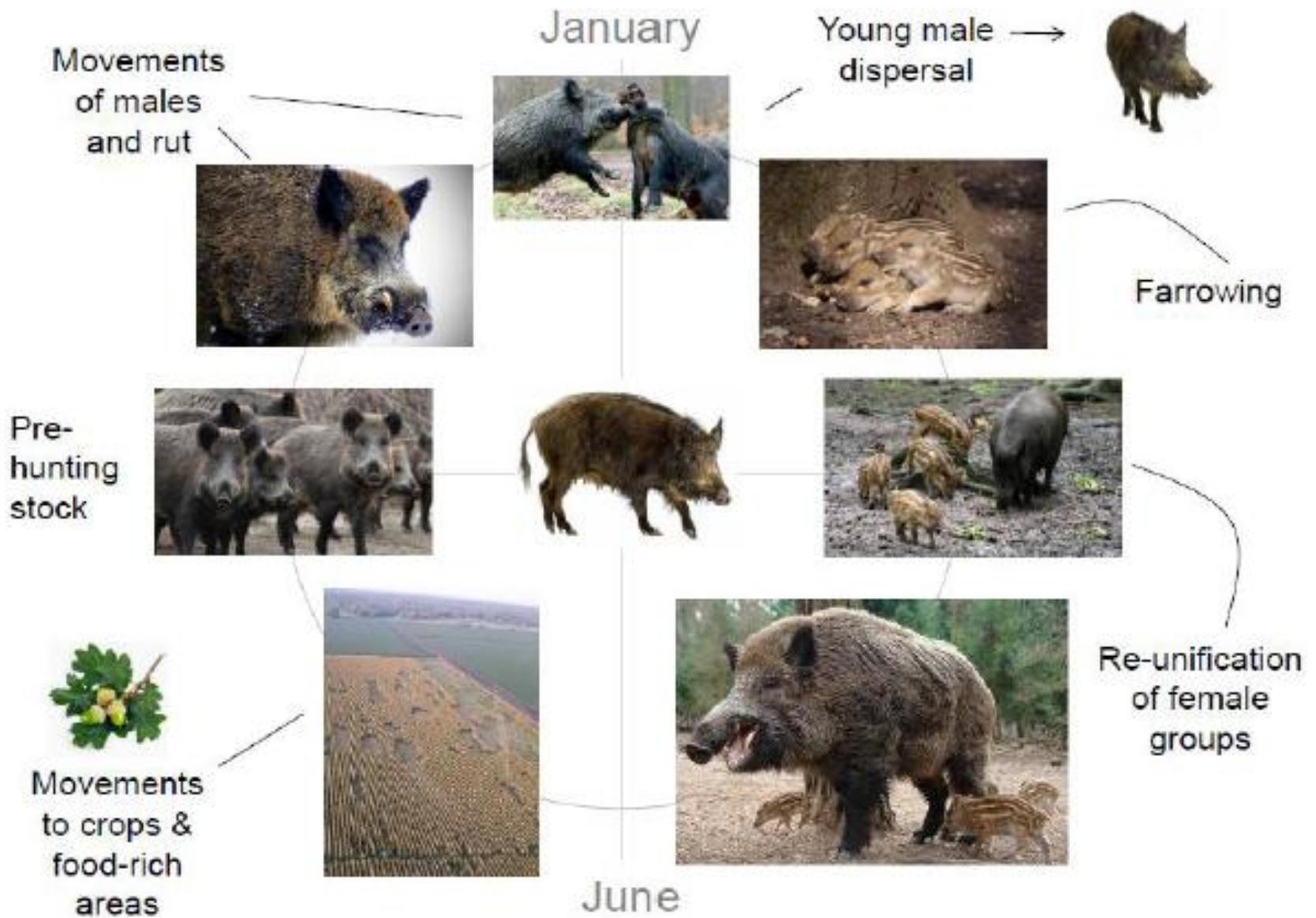
Food safety

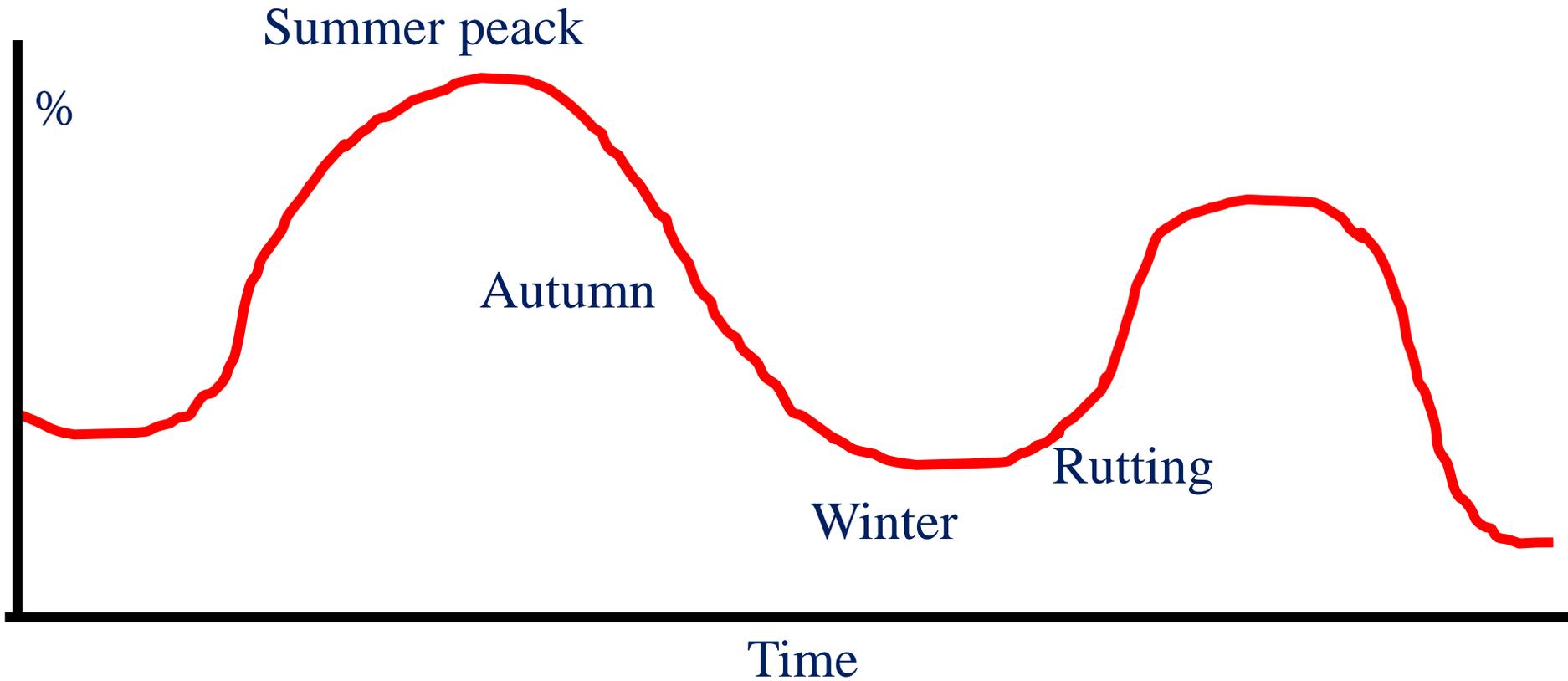




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Higher prevalence in summer: new born animals, maggots
Lower prevalence in winter: virus survives in carcasses
Increasing prevalence: rutting period

BTS

Y...u!

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